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ACADEMY OF HEALTH SCIENCES (ARMY) FORT SAM HOUSTON TEXAS--ETC F/G 6/5
A STUDY OF APPOINTMENT SCHEDULING CONTROL FOR OUTPATIENTS. (U)
JAN 73 R B STUART

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A STUDY OF APPOINTMENT ✓
SCHEDULING CONTROL FOR OUTPATIENTS

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FINAL REPORT
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BROOKE ARMY MEDICAL CENTER
FORT SAM HOUSTON, TEXAS 78234

HEALTH CARE STUDIES DIVISION
ACADEMY OF HEALTH SCIENCES, US ARMY
FORT SAM HOUSTON, TEXAS 78234

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A STUDY OF APPOINTMENT
SCHEDULING CONTROL FOR OUTPATIENTS.

(An Examination of Centralized Appointment
Systems in Military and Civilian Clinics)

7 FINAL REPORT.

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HEALTH CARE RESEARCH DIVISION REPORT NO. 6 ✓

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ACADEMY OF HEALTH SCIENCES, UNITED STATES ARMY
BROOKE ARMY MEDICAL CENTER
FORT SAM HOUSTON, TEXAS 78234

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11 January 1973

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PRINCIPAL ABBREVIATIONS USED IN THIS STUDY

WRGH	=	Walter Reed General Hospital, Washington, DC
MAH (Leav.)	=	U.S. Munson Army Hospital, Ft. Leavenworth, Kansas
WAH	=	U.S. Womack Army Hospital, Ft. Bragg, North Carolina
IAH	=	U.S. Ireland Army Hospital, Ft. Knox, Kentucky
BNH	=	Bethesda Naval Hospital, Bethesda, Maryland
KP	=	Kaiser-Permanente Medical Center, San Francisco, California
WBGH	=	William Beaumont General Hospital, El Paso, Texas
FGH	=	Fitzsimons General Hospital, Denver, Colorado
MAH	=	U.S. Martin Army Hospital, Ft. Benning, Georgia
DAH	=	U.S. Darnall Army Hospital, Ft. Hood, Texas
DGH	=	Denver General Hospital, Denver, Colorado
PBBH	=	Peter Bent Brigham Hospital, Boston, Massachusetts
LC	=	The Lahey Clinic, Boston, Massachusetts
CHMC	=	Children's Hospital Medical Center, Boston, Massachusetts
ACDS	=	Automatic Call Distribution System
BUMED	=	Bureau of Medicine and Surgery, Department of the Navy
CAS	=	Central Appointment System
Appt.	=	Appointment
Unk.	=	Unknown
Est.	=	Estimated

A STUDY OF APPOINTMENT
SCHEDULING CONTROL FOR OUTPATIENTS

by

Richard B. Stuart, LTC, MC

Section I - Introduction

1. Background.

a. The increasing demands on critical ambulatory health service resources in the Army have caused increasing attention to be directed towards the scheduling systems used for outpatients in Army medical treatment facilities. In November 1971 this issue was addressed by the Seminar on Ambulatory Health Services, sponsored by The Surgeon General, and held at Brooke Army Medical Center.¹ The Records Control Committee of the Seminar recommended that all outpatient appointment scheduling be centralized in each Army hospital. However, since there continued to be a considerable reservoir of negative opinion about centralized outpatient appointments, especially by many members of hospitals' professional staffs (see Proceedings, p 140), in January 1972, the Office of The Surgeon General (OTSG) directed that the Health Care Research Division, U.S. Army Medical Field Service School (later Academy of Health Sciences, U.S. Army), prepare a protocol for studying the advantages and disadvantages of centralized and decentralized outpatient appointment systems. A protocol to this end, "A Study of Appointment Scheduling Control for Outpatients (ASCOT)," was prepared and forwarded to OTSG on 24 April 1972. A study of this nature was announced in OTSG Memo 40-2, dated 5 June 1972.²

b. In the meanwhile, the Comptroller of the Army had conducted a study in the early spring of 1972 of outpatient care in the continental United States.³ This study recommended that appointment systems in hospitals be standardized and centralized under the Department of Clinics.

c. On 14 July 1972 the Multi-Directorate Health Care Research Advisory Board (OTSG) approved the protocol on appointment systems (ASCOT), with the provisos that it "be modified to restrict the effort

to determine the most effective and efficient method of operating a Central Appointment System," and that "emphasis be directed at enhancing the implementation of the system."⁴

d. The protocol was revised as directed. Due to the loss by permanent change of station assignment of the original project officer, MAJ T. A. Janke, MSC, the role of project officer was assumed by the Division chief.

e. To complete this background account, it should be recorded that on 29 August 1972, The Surgeon General dispatched a letter to the commanders of his Class II hospitals, directing the Chief, Department of Clinics and Community Health Care Services in all of those hospitals to "operate a central appointment system for all clinics."⁵ A similar letter was forwarded to the commanders of all Class I hospitals.

2. Literature review.

a. The scientific literature is generally of the opinion that using appointment systems in outpatient departments is better than letting patients "walk-in" without an appointment.^{6,7,8,9,10,11,12} Appointment systems seek to minimize both patient waiting time and physician idle time. As Rosenfeld puts it: "A well regulated appointment system has several advantages. Average waiting time is substantially reduced. As a corollary, the need for waiting room space is also reduced. Even more important, it makes possible the institution of a system of personal physician or family health team service. Appropriate times are allotted for new patients and for return patients in accordance with the norms of practice and with the experience of the clinic. The appointment system brings order into the logistical task of bringing the record, the patient and the doctor together at the right time."¹³

b. Until the advent of completely automated appointment systems ^{6,8,14,15} only the uniformed serves appeared to be paying much attention to centralized outpatient appointment systems, in which appointments for many, or all, outpatient clinics, both general and specialized, are made by a group of clerks in one location. Plunkett described such a system at William Beaumont General Hospital.¹¹ Holston described one at Bethesda Naval Hospital,⁷ and Paulson described a "mechanized" system at Fitzsimons General Hospital.¹⁶ A problem-solving thesis for the Army-Baylor Program in Health Care Administration was done at Martin Army Hospital at Fort Benning by Elizondo,¹⁷ in which a centralized system was in operation. Recently more attention has been given to centralizing the appointment function, due to the effort to completely automate it. However, in the above articles little effort is made to present a theoretical justification or rationale for centralizing the appointment system; attention is directed toward the mechanics of each system. Plunkett does state that going from a

"walk-in" system to an appointment system (that was—in 1961-1962—centralized) resulted in improvement in continuity of care, patient satisfaction, and doctor satisfaction.¹⁸

c. Rosenfeld has described the role of the Kaiser-Permanente system in popularizing the central appointment system concept: "In order to relieve some of the load on the telephone system, and to expedite making an appointment, the Kaiser-Permanente program some time ago devised a system which has since been adopted by other group practice prepayment plans. This involved the organization of a central appointment system which can be reached either from special phones strategically located in the clinic area which patients can use to arrange reappointments, or from the outside. The center consists of a large table around which are seated appointment clerks. Built into the table is a large lazy Susan which holds the appointment books of the physicians in the clinic. An automatic call director distributes calls to the clerks. Experience where such systems have been instituted indicates that one appointment clerk can handle appointments for five to seven physicians."¹⁹ The Kaiser-Permanente system was also briefly described in the February 1971 issue of Modern Hospital, which featured a color photograph of one of their systems on its front cover.²⁰

d. Two other issues relating to appointment systems are prominent in the literature, and are of importance to the design of a centralized system.

(1) One is the question as to whether appointments should be in blocks (several patients given the same appointment time, without knowing which doctor they will see), or by individual (one patient for each appointment interval, with a specific doctor assigned to that interval). All of the studies seen by the project officer show that patient waiting time is least with individual appointment systems. In a study of ten hospitals, Johnson and Rosenfeld found that the hospital with the best record on waiting time had an individual appointment system.⁹ Rosenblut, et al, found that patient waiting time decreased from a mean of 81.5 minutes with a block appointment system to 59.3 minutes with an individual appointment system at Morrisania City Hospital, Bronx, N.Y.²¹ In a study at Johns Hopkins Hospital, Soriano found that changing from block to individual appointments changed patient waiting time from a mean of 127 minutes to 82 minutes (the administrative waiting time segment went from 39 minutes to 10 minutes).²² Refinement of the individual appointment system devised by Soriano—the "two-at-a-time" appointment system—schedules two patients at each appointment time, with the intervals between appointments twice the average consultation time.²³ This is diagrammed in Figure 1:

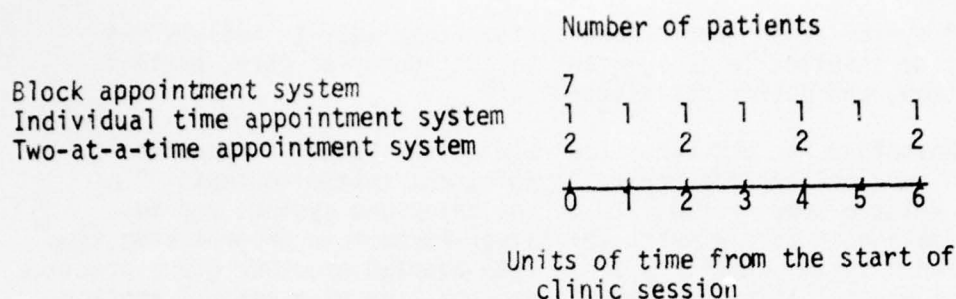


Figure 1. Comparison of patient arrivals in three appointment systems.

The introduction of the two-at-a-time appointment system was found to reduce patient waiting time at Johns Hopkins by an additional 50%.

(2) In any appointment system the problem of broken appointments is a serious one. If patients cancel their appointments far enough ahead to enable another patient to be given their appointment time, no harm is done. If, however, patients cancel with insufficient notice to permit filling their time, or if they give no notice at all, but merely fail to show up, then the doctor has a "no-show," and is idle—or, at least, does not see as many patients as he otherwise would. Those clinics with appointment systems therefore try to keep the "no-show" rate as low as possible.

(a) In 1962 Alpert did a study of broken appointments in the Children's Hospital Medical Center in Boston.²⁴ He found a 20% DNKA (Did Not Keep Appointment) rate, with a rate of 10% for new patients and 26% for return visits. He found as a high rate in clinics where no attempt was made to provide personal physician care (i.e., patient not followed by the same physician); he states that the DNKA rate in private pediatricians' offices is 15%.

(b) Walsh has reported that at the Public Health Service Hospital at New Orleans the no-show rate varied between 24.76% in the general outpatient clinics to 0.13% in the Hansen's disease clinic, with an average of 9.5%. Cancellation rates varied from none to 17.68%.²⁵ (Incidentally, he found that dependents of the armed services form a disproportionately large percentage of "did not keep appointment" patients; he called for further efforts to educate dependents about the need to cancel appointments rather than simply failing to keep them.)

(c) Shmark has reported on some successful methods to reduce the number of broken appointments in a children and youth dental care project.²⁶ They included calling patients by telephone the day before the appointment (or mailing a post card reminder three days ahead if there was no telephone), changing the color of the appointment slip

from white to yellow ("so that it might stand out among all the other slips the mother might have"), and calling all patients 10 minutes late. The no-show rate dropped from a high of 28% to a low of 7%, and 8% at the end of the study.

3. Known objections to central appointment systems. It was believed essential to address the known major objections to central outpatient appointment systems (for example, as expressed in the list of supposed advantages of decentralized appointment systems in the Proceedings of Seminar on Ambulatory Health Services, pp. 136-137). It is said that a central appointment system (hereafter abbreviated as CAS):

a. Results in unnecessary and undesirable external interference in the operation and control of clinics by the clinic or department chief.

b. Has appointments being made by clerks who cannot possibly know all the necessary, myriad details and procedures of the large number of clinics found in most Army hospitals (especially the Class II hospitals). At least, they cannot know these details as well as an individual clinic secretary or receptionist.

c. Is too impersonal, that it does not permit a good, continuing clinic—patient relationship.

d. Is too inflexible. (By "flexibility" is usually meant the ability of the doctor to make an appointment for a patient—usually a revisit—any time the doctor wants, having due regard for his own schedule of activities, and the ability to cancel his appointments or change his schedule, on short notice if necessary; it may also mean the ability to make short-lead-time appointments, i.e., only one or two days in advance.)

e. Takes more personnel to operate, whereas in most clinics appointment-making is merely an additional duty for someone.

f. Requires more specialized equipment and space.

g. Features duties that are too repetitive and monotonous to be effectively, courteously performed or that would attract competent personnel.

4. General characteristics of a good appointment system. A good central appointment system should be able to satisfactorily answer the above objections. Furthermore, a premise of this study was that it should also have certain positive features that should characterize any appointment system, to wit:

a. Each patient's medical record should be at the correct clinic on time, including two clinics if there is more than one appointment on the same day.

b. Each patient's x-rays should be at the correct clinic on time, including two clinics if there is more than one appointment on the same day (for those clinics that desire patients' x-ray files, such as Orthopedic Clinic).

c. There should be a central source of information about outpatient clinics.

d. Doctors should be able to cancel appointments, and the system should be able to notify and reappoint the patients cancelled.

e. There should be convenient access by patients, with:

(1) adequate telephone lines.

(2) adequate number of appointment clerks.

f. Appointment clerks should be able to do screening, and to direct patients to proper clinics.

g. There should be the ability to accommodate different lengths of service times.

h. There should be absent to minimal doctor idle time.

i. There should be absent to minimal patient waiting time.

j. Patients should have a written notice of their appointment.

k. Providers of care should have easy access to data about their future appointments (their scheduled workload).

l. There should be uniform, standardized appointment procedures for all clinics (and hence, for all AMEDD facilities, with a resulting decrease in staff orientation time, and an increase in staff efficiency and understanding of the system).

m. It should facilitate assembly of ancillary personnel, supplies, and space for clinic sessions.

n. It should eliminate all unnecessary clerical work, and free up individual clinic ancillary or administrative personnel to assist staff and patients.

o. It should facilitate collection of accurate outpatient workload data.

p. It should have a satisfactory cost/benefit ratio.

q. Appointment clerks should provide personalized service to patients (as patients perceive it).

r. It must be responsive to specialized needs of various clinics—as defined and demanded by clinic/service chiefs; they must be able to have some influence over when various types of patients are seen, service times provided, conference times scheduled, etc.

s. The system must be able to provide for walk-ins and emergencies.

t. It must give accurate, timely information to hospital commanders concerning workload of doctors and clinics, for management purposes.

u. There should be a low proportion of "no-shows" (appointment breakers).

v. There should be the ability to count walk-ins (as patient visits).

w. It should be able to handle short time-frame return visits ("come back in 2 days," etc.)

x. It should be easily accessible from both within and outside the treatment facility.

y. It should promote the most efficient use of physical facilities.

z. There should be ease of accessibility to multiple appointments.

5. Research questions to be answered. This study attempts to answer the following questions:

a. What are the general characteristics of the ideal central appointment system for Army hospitals?

b. What file equipment is suitable for a CAS?

c. What are the characteristics of a good telephone system for a CAS?

d. What is the best way to display doctors' schedules in a CAS?

e. What is the best system of recording appointments in a CAS?

- f. Should appointments be made in person, or by telephone only?
- g. What is the maximum portion of outpatient visits that can reasonably be expected to be appointed by a CAS?
- h. How many clinics can be handled by a CAS?
- i. How many doctors or other health care providers can be serviced by each CAS clerk?
- j. How many telephone calls can be handled by one CAS clerk?
- k. What is the length of the average telephone call to a CAS?
- l. What is the lowest no-show rate that can be achieved?
- m. What cancellation rate should be expected?
- n. What are the best operating hours for a CAS?
- o. What kinds, numbers, and grades of personnel should be assigned to a CAS?
- p. How far in advance should a CAS be able to make appointments?
- q. How should long-lead-time appointments be handled?
- r. How should short-lead-time appointments be handled?
- s. How should excessive appointment backlogs be handled?
- t. How should follow-up patients (revisits) be handled?
- u. How should a CAS relate to the medical records subsystem?
- v. How should a CAS relate to the radiology subsystem?
- w. How should walk-ins be handled where a CAS is in operation?
- x. How should doctors' schedules be changed?
- y. How often do Army central appointment systems make errors in making appointments?
- z. What reports should be generated by a CAS?
- aa. What do patients think about central appointment systems? Do they like them?

- bb. Do Army physicians and other staff members like Army central appointment systems where they are in operation?
- cc. How would staff members like to improve Army central appointment systems?
- dd. To what extent are CASs called for information?
- ee. To what extent should self-referrals to clinics be permitted?
- ff. Should CAS clerks perform some screening of patients in order to direct them to the proper clinics?
- gg. Do patients perceive CAS clerks to be courteous and to demonstrate a "personal interest" in them?
- hh. Does a CAS lead to an acceptable waiting time in clinics by patients?
- ii. What size room is needed for a CAS?
- jj. What type of physical facilities and staff amenities are needed for a CAS?
- kk. For how many hours per week could various clinics be expected to be available for appointments?
- ll. What service times are typical in various clinics on a CAS?
- mm. Is a punched card CAS system always superior to a paper system (Kardex or other)?
- nn. What is the best way to handle requests from physicians for cancellations of already filled appointments?
- oo. What should be the information-giving role of a CAS?
- pp. Exactly when should a rotary telephone system be replaced by an automatic call distribution system?
- qq. Exactly how many telephone lines are needed, correlated with workload?
- rr. Exactly what do Army physicians want in an appointment system? What don't they want?
- ss. When should appointment lists or cards be sent to the Medical Records Section?

tt. Which clinics should usually have appointments by individual doctor, and which use a modified block system?

6. Methodology.

a. Phase I consisted of a rapid examination of military and civilian hospitals or clinics that operated central appointment systems, in order to get a general idea of the kinds of systems, file equipment, and telecommunications equipment actually in use in those facilities. Staff and patient questionnaires were also field-tested. Since the literature had revealed that some hospitals had begun to use on-line, real-time computerized appointment systems, several of these institutions were visited, as well. Information on two other appointment systems was obtained without a personal visit by the project officer: information on the CAS at the US Womack Army Hospital, Fort Bragg, NC, was obtained by telephone from OTSG and from the CAS supervisor at Fort Bragg, Mrs. Faircloth, in December 1972, and from a Management Analyst there in January 1973; and data from Ireland Army Hospital, Fort Knox, KY, was obtained by LTC James B. Fisher, MSC, a project officer in the Health Care Research Division, during a visit in connection with another HCRD project in October 1972. Data about the Navy program was obtained from the Bureau of Medicine and Surgery, Department of the Navy by a personal visit by the project officer.

b. The following data was collected wherever possible:

- (1) Description of the CAS.
- (2) Outpatient visits per month.
- (3) Outpatient visits appointed by the CAS per month.
- (4) Number of clinics served by the CAS.
- (5) Number and names of clinics not on the CAS.
- (6) Number of calls handled or appointments made by the CAS per day.
- (7) Length of the average call to the CAS.
- (8) The no-show rate.
- (9) Number of telephone positions or desks in the CAS
- (10) Number of telephone lines available in the CAS.
- (11) Number of telephone lines or an Automatic Call Distribution System (ACDS) or a rotary ring-down device.
- (12) Hours of operation.

- (13) Personnel assigned to the CAS.
- (14) Number of telephone calls per CAS clerk per day.
- (15) Number of doctors served by the CAS, and average number served per clerk.
- (16) Maximum time in advance appointments could be made.
- (17) Average appointment backlog.
- (18) Latest time appointments could be made.
- (19) How long-lead-time appointments were handled.
- (20) Details of filing equipment, telephone system and physical facilities.
- (21) Details on nature of liaison between doctors, clinics, and the CAS.
- (22) Data on mechanics of handling doctors' and clinics' schedules.
- (23) Examples of reports generated by the CAS.
- (24) An estimate of staff attitudes concerning the CAS.
- (25) Staff recommendations as to how their CAS should be improved.

c. Visits in Phase I were made as follows:

- (1) 18 September 1972, William Beaumont General Hospital (WBGH), El Paso, TX.
- (2) 19-20 September 1972, Fitzsimons General Hospital (FGH), Denver, CO.
- (3) 20 September 1972, Denver General Hospital (DGH), Denver, CO.
- (4) 25 September 1972, Peter Bent Brigham Hospital (PBBH), Boston, MA.
- (5) 26 September 1972, The Lahey Clinic (LC), Boston, MA.
- (6) 26 September 1972, Children's Hospital Medical Center (CHMC), Boston, MA.
- (7) 27 September 1972, National Naval Medical Center (Bethesda Naval Hospital, or BNH), Bethesda, MD.

(8) 28 September 1972, Walter Reed General Hospital (WRGH), Washington, DC.

(9) 28 September 1972, Bureau of Medicine and Surgery, Department of the Navy, Washington, DC.

(10) 5 October 1972, U.S. Munson Army Hospital, Fort Leavenworth, KA.

(11) 6 October 1972, Kaiser-Permanente Medical Center (K-P), San Francisco, CA.

d. Reports of these visits have been previously published by the Health Care Research Division as Interim Progress Report I (25 September 1972) and Interim Progress Report II (27 October 1972). The principal findings of those reports will be summarized and included in this final report in order to make this document as comprehensive as possible. However, since installation of a real-time computerized CAS in any of our Army hospitals is not feasible in the immediate future, a description of those institutions with such systems (Peter Bent Brigham Hospital, Denver General Hospital, Lahey Clinic, and Children's Hospital Medical Center) will be summarized only in an appendix, not in the main body of the report.

e. After the Phase I visits, it was decided to examine four Army Hospitals that have CAS installations more closely in a Phase II. Two Class II hospitals were chosen—WBGH and FGH—and two Class I hospitals—U.S. Martin Army Hospital (MAH), Fort Benning, GA, and U.S. Darnall Army Hospital, Fort Hood, TX. WBGH and FGH were chosen because they both have computer support, but each in a somewhat different way (there were many other differences, as well). MAH was chosen because of the favorable reputation of its CAS and the fact that it had been examined carefully by Elizondo with a view to further improving it; and DAH was chosen because it had just installed a modern CAS, it hoped to have all clinics on the CAS by the first of December 1972, and it was relatively near Fort Sam Houston (home of the Health Care Research Division).

f. The purpose of Phase II was to examine four Army hospitals that had CAS installations more closely in order to determine, if possible, which hospital had the best CAS, which could then be recommended to other Army hospitals that either had no CAS, had a CAS that was not fully implemented, or had a CAS that was experiencing serious problems, especially problems of staff resistance to the CAS. It was hoped that at least one hospital would have found a solution to a given problem alleged to be insoluble under a CAS. It was also postulated that the best CAS would result in the highest degree of patient and staff satisfaction with the system. It was planned that each visit would last one (work) week at each hospital, thus giving the project officer time to determine staff and patient attitudes, collect more data about the CAS, and still permit completion of data collection

by mid-December 1972, with analysis of the data and publication of the final report of the study shortly thereafter. Accordingly, similar data was collected from MAH and DAH (which had not been visited for this study by the project officer before) as had been collected from the other hospitals, and the WBGH and FGH data were refined. In addition, some additional data were collected:

- (1) Cancellation rates.
- (2) Frequency and duration of information calls to the CAS.
- (3) Physician staffing.
- (4) Service times in clinics on the CAS.
- (5) Clinic hours in clinics on the CAS.
- (6) Data on which clinics used block appointments.
- (7) Number of lost telephone calls to the CAS.
- (8) Extent of no-circuit time on the CAS.

g. Visits in Phase II were as follows:

(1) 6-10 November 1972, William Beaumont General Hospital (WBGH), El Paso, TX.

(2) 13-17 November 1972, Fitzsimons General Hospital (FGH) Denver, CO.

(3) 27 November-1 December 1972, U.S. Martin Army Hospital (MAH), Fort Benning, GA.

(4) 4-7 December 1972, U.S. Darnall Army Hospital (DAH), Fort Hood, TX.

(Note: WBGH and FGH will be described only under Phase II, not Phase I).

h. In the four Phase II hospitals, questionnaires were distributed to patients (Appendix 2), and staff members were either interviewed with a schedule (Appendix 3 for WBGH, Appendix 4 for FGH, MAH, and DAH), or the schedule was completed as a questionnaire by some staff members. (the staff questionnaire was revised slightly after experience at WBGH). Patient questionnaires were distributed only to clinics on the CAS, with the number of questionnaires left at each clinic being proportional to the number of patients seen where appointments were made via the CAS. The questionnaires were then distributed to each successive patient who arrived who had been appointed by the CAS, until all the questionnaires were exhausted. Instruction sheets with the questionnaires instructed

clinic personnel to have the patients fill the questionnaire out after they had been seen by the doctor, and leave them at the clinic desk before they left the clinic. It is known that many patients walked off with the questionnaires, and did not return them (there was no mailing address on the questionnaire). It was hoped that all the questionnaires would be completed before the project officer left at the end of the week. This was never possible, and some questionnaires from each hospital were completed and mailed later to the project officer.

(1) Patient questionnaires were distributed as follows:

Hospital	Number of Clinics Receiving Questionnaires*	Number of Questionnaires Distributed	Dates of Distribution	Number of Useable Questionnaires Returned	(%)
WBGH	14	1,460	7-14 Nov 72	678	(46.4%)
FGH	17	1,300	14-24 Nov 72	651	(42.4%)
MAH	10	1,000	27 Nov-6 Dec 72	484	(48.4%)
DAH	13	1,387	4-13 Dec 72	441	(31.8%)
TOTALS:	54	5,147		2,254	(43.7%)

(2) Responses from these four hospitals were compared using the chi square test of significance where possible.

i. During the course of the study rotary file equipment manufacturers, telephone equipment manufacturers, and Army communication experts were consulted in order to determine the state of the art in file and telephone equipment for central appointment systems.

*For list of clinics receiving questionnaires, see Appendix 5.

Section II - Findings in Phase I (Initial Survey)

7. Computerized appointment systems: See Appendix 1.

8. General description of each system.

a. Walter Reed General Hospital (WRGH), Washington, DC., was visited on 28 September 1972 (arranged by OTSG) and the following individuals were contacted:

COL Harold E. Ratcliffe, MC, Chief, Dept. of Clinics and Community Health Care Services, WRGH, and MDW.

LTC Roy Rada, MSC, Admin. Asst., Dept. of Clinics

MAJ Gene Freiheit, MSC, Administrator of Ambulant Clinics, WRAMC

Mrs. D. Clark, DAC, Supervisor, Central Appointment System.

The central appointment system at WRGH has been in operation since 1953; a rotary desk file was installed in 1963, and a second unit was added in 1967. The system is described in detail in the report of a recent master's thesis study of the WRGH central appointment system done by Vanderzee,²⁷ and kindly furnished by the CAS supervisor. This report is available in the Health Card Research Division (HCRD); it is, however, too lengthy (150 pages) to be reproduced here. An article by Doble²⁸ also describes the WRGH system, although it is now obsolete in several respects. Some of the unique features of the WRGH system are listed below:

(1) The main components of the CAS are described well by Vanderzee:

"A two tier rotary file, known as the clinic schedule file, is used to hold the master clinic schedules on clipboards in the upper tier and completed appointment slips in the lower tier. Each clinic has an allotted slot in both levels of the file for the clipboards and completed appointment slips. Four operator desks circle this file allowing easy access to the clipboards. A special desk with concave ends forms a bridge between the clinic schedule file and the appointment slip file. The desk has phones and chairs on opposite sides for clerks. These clerks have access to both the clinic schedule and appointment slip files. At the other end of this desk is the appointment slip file, (also) a two tiered rotary file..."²⁹

(2) The clinic appointment schedules are kept on three different kinds of forms (Appendices 6 and 7), depending on the number of doctors in each clinic and their appointment intervals. In Appendix 6, for example, there is room for only two doctors' names per day. When an appointment is made, the clerk puts a line through each time interval chosen with

her individual colored pencil (which can be erased for cancellations). When a day's appointments are closed out, the corresponding strips are torn from these sheets and are sent to the clinic with the appointment slips.

(3) A four-part appointment form with interleaved carbons is used to make the appointment (Appendix 8). Each part is identical. One copy is placed in a file arranged by month, and by day of the month; the other three copies are stapled together and placed in a file arranged by clinic. Three days before appointments are scheduled, this packet of three forms is removed from the file: one copy is sent to the clinic, and two copies go to Medical Records. Medical Records uses one copy to pull the outpatient medical record, placing the form in a pocket on the charge-out card; the other copy is placed on the front of the Medical record and sent with it to the appropriate clinic. The copies in the monthly file are kept in the CAS room in cardboard boxes for one month, then destroyed.

(4) Outlying clinics and hospitals use a written request form. One clerk handles all correspondence and appointments by mail, as well as relieves at the wheel when needed.

b. U.S. Munson Army Hospital (MAH Leav.), Fort Leavenworth, KA, was visited on 5 Oct 72, and the following individuals were contacted:

COL Peter Schroeder, MC, Commanding Officer

LTC Richard Harder, MSC, Executive Officer

LTC Paul C. Vose, MC, C, Dept. of Surgery and C, Professional Services

MAJ Ettinger, MC, Dept. of Medicine

LTC Helen J. Mackey, ANC, Chief Nurse

LTC Thomes, MC, C, Orthopedic Svc.

MAJ Warth, MC, Obstetrician

MAJ Richard Meiers, MSC, Administrator, Dept. of Clinics

MAJ Cline, MC, C, N. P. Service

MAJ S. R. Jones, MC, Orthopedic Surgeon

MAJ Ferlazzo, MC, ENT Service

MAJ Belkowitz, MC, ENT Service

MAJ Slachta, MC, C, Urology Svc.

CPT Lovitt, MC, Walk-in Clinic

CPT Clark, MC, Pediatrician

CPT Stevens, MSC, Psychologist

Mrs. Wallace, DAC, Nurse's Asst., OB-GYN Clinic

Mrs. Sharon Atkins, DAC, Supervisor, Central Appointment System.

(1) The CAS at MAH (Leav.) has been in existence since 1961. The CAS desk is at the entrance to the clinic area, and handles appointments by telephone and in person. The CAS is staffed by both full-time civilian employees and Red Cross volunteers.

(2) Most appointments are scheduled in a large book (made by Columbia), approximately 18 inches long and 11 inches wide. Four days' schedules are on one page (see Appendix 9). There are five such books (for Internal Medicine, Orthopedics, Surgery, ENT, and General Out-patient) as well as some smaller ledger books and notebooks for other clinics (Dermatology, Eye Screening, Vasectomy). Three days prior to appointment dates (one day for Outpatient Clinic), CAS personnel make two copies of each clinic's schedule by hand, using a page containing four days' schedules, but perforated between each one of the four sections. One copy is sent to Medical Records to use in pulling records, and accompanies the records, which are sent to the clinics the evening before the appointments, updated for new appointments made since the Medical Records copy was forwarded, and sent to the clinic the morning of the day the appointments are scheduled. The original schedules are kept about 6 months, then destroyed.

(3) Many appointments are made in person by patients who walk up to the CAS desk. When an appointment is made in person, the patient is given a DA Form 8-97, Medical/Dental Appointment. When an appointment is made after the clinic schedules are closed out and sent to Medical Records, a copy of DA Form 8-97 is completed and kept in a suspense file at the CAS desk until the day of appointment, when it is picked up by the patient on his way to the clinic, as a means of verifying that he has a valid appointment.

c. U.S. Womack Army Hospital (WAH), Fort Bragg, NC. All of the information about the WAH CAS was obtained via telephone and mail. The system was installed in 1966, was closed down after several years' operation, and became operational again in April 1972. Details of the system may be found in Appendix 25. Briefly, clinic schedules are on clipboards on two rotating drums, each serviced by four clerks. Appointments are entered on McBee edge-punched cards, which are sent at 1100 hours the day before the appointment to the Outpatient Medical

Records section (and to Radiology for Orthopedic Clinic and Cardiology Clinic patients), where the proper records are pulled and picked up by clinic personnel. Mrs. Faircloth believes that doctors, clinics, and patients all like the system. Staffing for the CAS came from clinics that had at least one clerk already making appointments on a full-time basis.

d. U.S. Ireland Army Hospital (IAH), Fort Knox, KY. Information on IAH was obtained by LTC James B. Fisher, MSC, project officer in the Health Care Research Division. The IAH system was installed in 1957 when the hospital was built. The CAS desk consists of a multiple-position counter in the main lobby of the outpatient area. It is adjacent to the Outpatient Medical Record Section. Appointments are made in person (70%), by telephone (20%), and by correspondence (10%). Appointments are recorded on forms (Appendix 10), copies of which are forwarded to the Outpatient Medical Records Section. There are reportedly few patient complaints about the system. Staff feelings about it are also reportedly favorable.

e. The National Naval Medical Center, Bethesda, MD (also known as Bethesda Naval Hospital, or BNH), was visited 27 Sep 72, and the following individuals were contracted:

LCDR A.H. Lovin, MSC, USN, Administrative Asst., Dept. of Clinics

LT Gary T. Davis, MSC, USN, Administrative Officer, Dept. of Clinics

Supervisor, CAS

(1) The BNH CAS was originally established in 1963, and re-organized and re-equipped in 1970. Details of the present system are contained in Appendix 11. It basically uses clerks sitting around a "Lazy Susan" circular rotary file desk, mounted with four VISIrecord Rotary Stands with VISIcard Panels (Appendix 12). Appointments are made only by telephone, including in-house automatic dialing telephones in the outpatient clinic waiting room.

(2) Doctors' availability is furnished to the CAS on NH Form 298 (Appendix 13). Appointments are scheduled on the VISIcards (Appendix 14), which contain the doctors' schedules, and on 3-part Appointment Slips (Appendix 15), made of special carbonless copy paper. The first copy (yellow) of the Appointment Slip goes to the statistician; the second copy (pink) goes to Medical Records, then with the chart to the clinic, then (if no-show) to the statistician for compilation of the no-show rate; and the third copy (green) goes to the Medical Records Section to assist in pulling the records. It is then inserted into the charge-out card. The completed VISIrecord cards are also sent to Medical Records, and then to each clinic with their stack of charts.

(3) One innovation of special note is the appointment system used for routine follow-up OB patients. These patients make their own appointments by filling in their names themselves on one of four large (12 x 18 inches) appointment schedules posted in the OB clinic waiting room (see Appendix 16), depending on whether they are to return in one, two, three, or four weeks. Thus, no "middleman" appointment clerk is required in this self-service system. It is reported to work well.

f. The Kaiser-Permanente Medical Center, 2200 O'Farrell St., San Francisco, CAS was visited on 6 October 1972, and the following persons were contacted:

Mr. Richard L. Henry, Supervisor, CAS

Miss Darling, Asst. Supervisor, CAS

Mrs. Alva Wheatley, Director, Patient Services and Registration (includes CAS)

(1) The Kaiser-Permanente (K-P) CAS was described briefly in Modern Hospital, vol. 116, February 1971, page 85. It stated that most K-P medical centers now have systems in which "8 to 24 women, schooled in courteous handling of telephone calls, sit around one or two circular tables. In the middle is a Lazy Susan, or turn table, holding the appointment books for each doctor. The patient calling takes his turn in talking to the first woman available, who inquires into his need and gives him the first opening with his own doctor, or any doctor, as he wishes." The K-P Medical Center in San Francisco has this type of system, but it is not as simple, or as centralized, as suggested by that article.

(2) At San Francisco the CAS is located in the basement of the clinic building at 2200 O'Farrell Street. The physical layout is diagrammed in Appendix 17. Appointments are made only by telephone. Those groups of doctors serviced by the CAS are allocated to 6 "senior receptionists" in the CAS office, who coordinate directly with the physicians, fill out the doctors' clinic schedules under their guidance (see Non-Available Time Notice, Appendix 18) and work out problems. Their assignments are as follows:

<u>Groups</u>	<u>Number doctors serviced</u>
Medical 1	7
Medical 2	16
Medical 3	17
Eye (ophthal. and optometry)	23
Pediatrics	22
Dermatology	6

(3) Doctors' schedules are completed on various forms (see Appendices 19 and 20 as examples). After they are completed, they are filed

in plastic binders, one per doctor, on the rotary wheel, with a different color for each group of physicians, as follows:

Medical:	light green
Dermatology:	dark green
Optometry:	gold
Pediatrics:	blue
Ophthalmology:	olive
Sigmoidoscopy:	yellow

Each doctor's binder includes, as a cover sheet, general guidance for the clerks (see Appendix 21).

(4) When a day's appointments are closed (2 days in advance), a clerk photocopies the pages of appointments and distributes one copy to the doctor, one copy to the floor (clinic) nurse, and two copies to receptionists. This clerk also copies each appointment onto a Medical Record Request form (Appendix 22), organizes them by floor, and takes them to the Medical Records Section. The Medical Record is pulled two days in advance. A similar X-Ray Request Form is prepared as needed.

(5) Appointments are made for Multiphasic Health Check-up (MHC) on a Hollerith punched card, with different colored cards for each day of the week. There is a weekly computer print-out of all future MHC appointments for the appointment clerks to use to verify patients' appointments (there are a lot of those calls).

(6) Appointments can be made for a maximum of 6 weeks in advance; appointment requests are made on a special Appointment Slip (Appendix 23) and filed away until the doctors' schedules for that period are available.

(7) An interesting innovation in the San Francisco CAS is the use of chalkboards to facilitate filling late cancelled appointments. When an appointment for a day that is already closed is cancelled by a patient, the clerk taking the call writes the new available appointment on one of three chalkboards high on the walls of the CAS room. If the time is filled with another patient, the clerk taking that call erases the information from the chalkboard, and notifies the doctor. It is said to work well.

(8) The San Francisco appointment system is not completely centralized. Many of the various physicians and department chiefs have demanded personal control over their follow-up appointments. Accordingly, 18 months ago full-time appointment clerks were placed in the following clinics: Pediatrics, and floors 4, 5, and 7. The senior receptionists send an extra copy of all the doctors' schedules to the floor appointment clerks. There is still some duplication of appointments. The CAS handles all new or initial appointments.

(a) Before decentralizing the return visit portion of the appointment system, doctors complained that:

(1) The appointment books were not always available (when the pages were being photocopied);

(2) They could not easily squeeze extra patients in;

(3) They had to walk as much as 8 floors down to the basement to see their appointment books;

(4) Many so-called follow-up patients appeared that the doctors had never seen before—they were not their patients;

(5) The doctor couldn't as easily pick-up errors (he could if he made his own appointments; and

(6) Often the doctors couldn't read the names of the patients in the appointment books.

(b) Since decentralization, the following disadvantages have become apparent:

(1) Doctors block out too much time for themselves;

(2) It is harder to get management information on workload; and

(3) The cost of the appointment system has increased greatly because of the need to staff the appointment desks on the clinic floors with from one to three clerks: since decentralization, the CAS staff increased from 19 to 32 individuals. The floor appointment clerks continue to belong to the CAS.

(9) Mrs. Wheatly stated that most other Kaiser-Permanente Medical Centers in California have two rotary wheels, with up to 12 clerks per wheel. Each wheel has to have its own phone number, its own ACDS, and its own set of clinics. There is no sharing of workload.

9. Comparison of the six hospitals. (WRGH = Walter Reed General Hospital; MAH (Leav) = Munson Army Hospital, Ft. Leavenworth; WAH = Womack Army Hospital, Ft. Bragg; IAH = Ireland Army Hospital, Ft. Knox; BNH = Bethesda Naval Hospital; and KP = Kaiser-Permanente, San Francisco)

a. Operational data:

(1) Outpatient visits per month (August 1972 or average)

<u>WRGH</u>	<u>MAH (Leav)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
28,177	18,206	29,000 (av)	39,000 (av)	35,392	unknown

(2) Outpatient visits appointed by CAS (per month, August 1972):

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
5,723 (20.2%)	3,674 (20.1%)	27,500(est.) (70.5%)	17,666 (45.3%)	26,400-- 33,000(est) (93%)	24,221 calls; (est. 10% are for informa- tion)

(3) Number of clinics served by the CAS:

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
11 (29%)	14 (54%)	14 (70%)	22 (81%)	34 (76%)	7 (70%)

(4) Number of clinics not on CAS (excluding Troop Medical Clinics)
(see Appendix 25):

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
26	13	6	5	11	4

(5) Number of calls handled or appointments made by CAS per day:

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
253 total calls (Aug 72)	81 calls for info; 71 appt calls; 104 in- person info; 96 in-person appts 352 transac- tions(Aug 72)	1500 calls (est)	unknown (many appts in person)	1200-1500 calls (est)	1053 calls (Aug 72)

(6) Length of average call:

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
Unk.	Unk.	Approx. 3 min.	2 min.	1.0-1.5 min (est)	3 min.

(7) Number of phone positions (desks):

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
6	4	10	4	7	10

(8) Number of total phone lines available:

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
11 (3 direct from clinic; no dialing)	5	12	5 (4 listed)	18	28 (11 direct dialing from clinics)

(9) Number of phone lines on Automatic Call Distribution System (ACDS) or rotary device:

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
4 (rotary)	4 (rotary)	12 (6 on each of 2 rotaries)	none (5 separate numbers)	15 (ACDS)	28 (ACDS) (17 outside) (11 local)

(10) Hours of operation:

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
0745-1630, M-F (one clerk only 1200-1300)	0730-1130, 1230-1630, M-F	0730-1625, M-F	0800-1630, M-F; 0800-1200, Sat.	0700-1630, M-F	0830-1800, M-F

(11) CAS personnel actually assigned:

	<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
Supervisor	1 (GS-6)	1 (GS-4)	1 (GS-5)	1 (GS-5)	1 (GS-5)	1 (approx GS-7.5)
Sr Appt Clk	1 (GS-5)					1 (approx GS-5.5)
Appt Clerk	6 (GS-4)	2 (1-GS-3, 1 E2)	10 (GS-4)	5 (GS-3)	6 (5 GS-4, 1 GS-3)	6 (approx GS-4)
Messenger						10 (approx GS-3.5)
Other		2 (volunteers)	1 (Clerk)			1
TOTAL	8	5	12	6	7	13
						32

NOTE: MAH(Leav.) also uses 20 Red Cross volunteers, of which 2 serve in the morning and 2 in the afternoon.

(12) Number of phone calls per clerk per day:

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
51 (5 clks in Aug 72)	30 (5 clks)	150	Unk.	173-214 (7 clerks)	148 (7.1 full-time equivalent; av. in Aug 72)

(13) Number of doctors and other providers served by the CAS:

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
Unk.	23	60 (est.)	57	170	92

(14) Number of doctors served by each clerk(average):

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
Unk.	4.6(5 clks)	6	12+	24.3(7 clks)	13.1 (7 CAS clerks)

(15) Maximum time in advance appointments can be made:

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
Up to 2 mo.	Up to 2 mo.	Unk.	Up to 6 wks.	Up to 2 mo.	6 weeks

(16) Average appointment backlog:

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
None to <1 week 60 days	None to <1 week 60 days	None to 2 mo.	22 days	Varies; av. 2.3 wks for new appt.	Varies

(17) Latest time appointments can be made(if available):

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
2 days prior	Same day	1100 hrs day before	1 day prior	1 day prior	Same day

(18) How long-lead time appointments are handled:

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
Not handled	Patient told to call in when books open	Patient told to call in when books open	Suspense file	Unk.	Special form (App. 26,B)and holding file

(19) Patient no-show rate:

<u>WRGH</u>	<u>MAH(Leav.)</u>	<u>WAH</u>	<u>IAH</u>	<u>BNH</u>	<u>KP</u>
Unk.	Unk.	Unk.	Unk.	10%	Unk.

b. Descriptive data:

(1) Appointment file equipment and supplies:

(a) WRGH: the two rotary files were made by the Wassell Corp. at a total cost of about \$2500.00 (in 1963 and 1967). The files are not motorized. Each appointment clerk works at a right angle to the wheel, and her desk is separated from her neighbor ahead of her by a backboard faced with sound-absorbent material that is used as a bulletin board for calendars, SOPs, etc. This is seen by the CAS staff to be a desirable feature. The clinic schedules on the clipboards on the wheel tend to become dog-eared. The supervisor would prefer to use carbonless paper in the appointment forms to avoid the smearing of carbon paper.

(b) MAH(Leav.): the large appointment books are seen to be very unwieldy, and the copying laborious.

(c) WAH: For details see Appendix 25.

(d) IAH: Looseleaf notebooks are used, stacked on a shelf, below and behind counter top. (Each clerk handles specific clinics on a given day, although the jobs are rotated.)

(e) BNH: the file equipment is VISIrecord, installed in 1970 for \$5131 (see Appendix 26 for details). The wheel is motorized (see Appendix 27 for a top view). The HOLD button is little used; most clerks prefer the HOLD foot pedal.

(f) KP: the equipment is made by Acme Visible Records, Inc. Cost is unknown. The wheel is not motorized. The upper tier of the wheel contains 75 slots for doctors' appointment books. The lower tier has 512 slots for MHC appointment punched cards. The telephone consoles for each clerk are deeply recessed under the lower tier, nearly hidden in shadow. Various schemes for increasing the lighting in that area have been proposed, without success. The general lighting over the wheel is also poor. The assistant supervisor believes the appointment clerks should not be facing toward the center of the wheel, as they are here, because it more readily causes conversations to become overheard and confused. It is thought to be better to have the clerks at right angles to the wheel, with a separate desk or work station for each clerk. However, the present room is too small to permit this. The CAS staff also feels the wheel should be motorized; it did appear to take considerable effort to overcome the inertia of the wheel.

(2) Dimensions of CAS room or facility:

WRGH: 30 ft. x 20 ft. (est.) (adequate for current workload, but too small for expansion)

MAH(Leav.): 15 ft. x 12 ft. (est.) (considering room 40 ft. x 20 ft., est.)

WAH: 30 ft. x 30 ft.
IAH: 22 ft. x 19 ft. (felt to be too small by CAS supervisor)
BNH: 18 ft. x 18 ft. (too small)
KP: 18 ft. x 18 ft. (est.) (felt to be too small by CAS supervisor)

(3) Telecommunications:

(a) WRGH seems satisfied with its rotary call distributor.

(b) The small PBX at MAH(Leav.) is old, very complicated, and hopelessly inadequate. Four phones ringing audibly is very distracting. Patients are often cut off or plugged into other conversations. The CAS staff dislikes it intensely. There is no hold button.

(c) The two rotary files at WAH demand two separate rotary ring-down systems with 5 members each. It would seem better to have one system with 10 numbers. However, the CAS supervisor seems pleased with the system, and say there are rarely any busy signals to patients calling in.

(d) IAH has neither a rotary system nor an Automatic Call Distribution System. However, the CAS supervisor professes to be satisfied.

(e) BNH has an Automatic Call Distribution System (ACDS) installed in 1970. For details, see Appendix 28. It seems to be a good system, although there have been many maintenance problems. Green lights indicate visually to the supervisor (and only to her--it is under her desk) that a call is waiting; a red light indicates a clerk is talking to a caller. There is only one (unlisted) in-house number, and only one intercom line that works (to the Admin. Asst., Dept. of Clinics). There are no peg counters or busy circuit indicators. There is a recording that comes on when all clerks are tied up, and at night and on weekends and holidays. The card-dialing phones for in-house use seem moderately convenient, but no study of this in this setting is known.

(f) The ACDS light board at KP is visible from the supervisor's office, and for about half of the clerks at the wheel. There are peg counters to record traffic, and ATB (all trunks busy) counters; lost calls are also recorded. There is also a busy time and off-duty recording device. Thus, the supervisor can keep track of how adequate his service is. He can also spur the clerks on to greater efforts if the workload requires it. A daily tally sheet (Appendix 29) and a monthly report (Appendix 30) provide management data. Unfortunately, there have been a lot of maintenance problems, and the whole ACDS system may have to be replaced with a new one.

(4) Headsets: WRGH, WAH(Leav.), BNH, and KP all used Pacific Plantronic headsets, which the staff claimed to be satisfactory. MAH and IAH clerks used regular hand-held telephone instruments.

(5) Clinic and doctor SOP files:

- (a) WRGH: kept on bottom of clipboards on wheel, plus some information on desk backboards, and on edge of wheel.
- (b) MAH(Leav.): kept by CAS supervisor
- (c) WAH: On paper sheets in plastic document protectors lying on top of the two file cylinders.
- (d) IAH: Inside front cover of appointment books.
- (e) BNH: on "lead cards" on rotary files, on bulletins on desk tops, or in clerks' memories.
- (f) KP: kept in each doctor's binder in the top tier of the wheel. A few urgent notices are taped to the edge of the wheel.

(6) Liaison with doctors and clinics: The CAS supervisors at MAH(Leav.) and KP appear to make a special effort to effect liaison with doctors and clinics. It is easier at MAH(Leav.) because the facility is relatively small. At KP a CAS representative is invited to departmental professional meetings to discuss problems. Doctors are also encouraged to come down to the CAS section in the basement, but apparently few do, since it is relatively far from most of the doctors' offices (the building has 11 stories).

(7) Reports:

(a) MAH(Leav.) recently started producing a weekly report on appointment backlog in working days (see Appendices 31 and 32). In the month the report has been published, the backlog has fallen from an average of 6.5 days to 4.6 days. The CAS produces a monthly report on CAS workload, as follows (for Aug 72):

	<u>Daily Averages</u>
Information to patients (in person)	104
Information by telephone	81
Appointments made in person	96
Appointments made by telephone	71
TOTAL WORKLOAD	352

(b) Appointment availability (backlog) by clinic is also reported weekly by WRGH and IAH, and monthly by BNH and KP.

(c) The Outpatient Report (Med-80) is consolidated and prepared in the CAS at IAH.

(8) Changing doctors' schedules:

(a) WRGH requires changes in doctors' schedules to be submitted in writing (by DF), time limit unknown.

(b) MAH(Leav.) allows changes to be made by the doctor talking to the CAS supervisor in person, as needed.

(c) BNH requires changes to be submitted in writing through the doctor's chief of service 8 weeks in advance. Canceling of appointments by doctors is rare; such a request must be approved by the Director of Clinical Services (a rear admiral). Usually coverage by another doctor is arranged.

(d) KP requires department chiefs to approve changes in schedules within 3 days of appointments. "Senior receptionists" cancel patient appointments when it is necessary.

(9) Physical facilities:

(a) The WRGH CAS is in a third floor room approximately 20 ft. x 30 ft. A lounge is down the hall. A second wheel could possibly be added in the existing space, but it would be quite crowded. The floor is carpeted; there is one picture; one green plant; and no curtains on the two recessed windows. There are three large beams crossing the middle of the room at 45° angles, plus a vertical pipe in the middle of the room. The beams require personnel to duck when crossing the room. The central air-conditioning unit is inadequate; in the summer the temperature in the room reaches 95° at times. The CAS is not accessible by walk-in patients.

(b) The MAH(Leav.) CAS is open to patient transactions in-person, as well as to telephone appointments. The CAS staff believes in-person transactions occurring with telephone transactions is unduly disturbing. All personnel must stand while dealing with patients, which is fatiguing. There is air conditioning. The CAS supervisor is in a tiny partitioned-off area to the rear of the CAS counter. The CAS is looking at a room in the basement to possibly move into: it is approximately 20 ft. x 40 ft., and houses the obsolete hospital radio station. The room is lined with acoustic tile, and would seem to be ideal.

(c) The BNH CAS is housed in a room 18 ft. x 18 ft., which is barely big enough for the wheel. There is no room for clerk desks at right angles to the wheel, except for one clerk who prepares the doctors' schedules on lead cards. The room was formerly used for storage of baggage; cost of renovation was \$2000. There is an acoustic ceiling, no windows, and one door (with no external signs). The floor is red tile. There is an attractive wallpaper mural on one wall, a clock on another. The other two walls are bare. The CAS is not accessible by patients.

(d) The KP CAS is in the basement of an 11-story clinic building, and is normally inaccessible by patients, although the main door stands open. There is a rear door. Lighting is poor over the wheel. Air conditioning is present, but inadequate. The CAS supervisor feels air conditioning is important, due to the closeness of personnel. There is carpeting (which helps to deaden sound), and acoustic tile on ceiling and walls. The assistant CAS supervisor lamented the lack of in-person patient contact. It should be noted that the supervisor, asst. supervisor, and senior receptionists in the CAS all wore long white coats; they did go onto the clinic floors from time to time. The space for the wheel is about 18 ft. x 18 ft.; an equally large area held clerks and work counters (see Appendix 17).

(10) Physicians' attitudes:

(a) At WRGH it was apparent that there is great resistance to the CAS by certain service chiefs, especially the chiefs of OB-GYN, Dentistry, and Surgery, as indicated by their responses to The Surgeon General's directive concerning all clinics using a CAS. Time did not permit sampling other doctors' attitudes.

(b) At MAH(Leav.), 10 doctors, one nurse's assistant (in the OB-GYN clinic), and one psychologist were queried as to their opinions about a CAS. Six were fairly well satisfied, and six were definitely dissatisfied. Of the six dissatisfied individuals, only two used the system, and four did not.

1 Positive features were that CAS clerks would re-appoint patients if doctors had to be absent; doctors like their time to be blocked out, so that they do not feel rushed or pressured by a waiting room full of patients; doctors can determine their own appointment intervals; ease in rescheduling appointed patients; medical records are available when patients are seen (it would be even more desirable, said one, if the record were available the afternoon before, so a doctor could read up on diseases to be seen the following day); provides an always available telephone answering service that clinics cannot always provide when clerks are tied up being chaperones, helping the doctor, etc.); erroneous appointments are rare; and the clinic receptionists don't have to be bothered making appointments.

2 Negative opinions included: CAS too impersonal; CAS clerks can't possibly know the types of patients coming in nor anything of the previous history of a problem; existing phone system often results in several conversations on the same line; CAS may be unable to assign correct priority to patients (although there are only four conditions about which to judge, according to the OB-GYN Clinic nurse's assistant, who does this); the doctor has to call patients back occasionally, hard to coordinate via the CAS; CAS makes it hard to squeeze patients in between regular appointments; erroneous referrals (to OB-GYN for Pap smears, when actually done elsewhere); need for prior screening of NP patients

before accepted for intake; only one psychiatrist assigned (no backup), and can't know schedule beyond three days in advance; CAS might result in breach of confidentiality with NP patients; patients wouldn't like to call CAS for an NP appointment, but would call the 91G who answers the phone in the NP Clinic; service intervals too varied, depending on type of patient seen; difficult to plan very far ahead; easier for clinic to schedule own follow-up appointments; all phone lines often busy when patients call in; and lack of communication between CAS and doctor, especially when doctor tells patient to come back at a certain time, and no regular appointments available then from CAS.

3 At BNH doctors could not be queried about satisfaction. However, it is understood that one clinic not on the CAS--the NP Clinic--claims it has too small a staff to go on the CAS, too many patients, and the individual screening required before patients are actually scheduled for appointments by the NP Clinic staff is too time-consuming and specialized for the CAS to handle. Some other chiefs of services choose to handle appointments for their own individual patients.

4 Complaints of doctors at KP before decentralization of follow-up appointments were listed previously (page 21). The efforts of the "senior receptionists", who are actually clinic secretaries on the CAS staff, and trouble shooters, are apparently of great value in holding down complaints. It was not possible to interview any KP physicians.

10. Staff recommendations for changes of their own central appointment systems:

a. WRGH:

- (1) Improve physical facilities, especially air conditioning.
- (2) Enlarge space and increase equipment to permit expansion.
- (3) Use carbonless paper for appointment slips.

b. MAH(Leav.):

- (1) Move to new, more spacious location.
- (2) Be isolated from in-person visits by patients.
- (3) Better phone switchboard, including a hold switch (none present now).
- (4) Acme Visible forms and rotary file being considered.

(5) All full-time staff (no volunteers).

(6) Have day-time Medical Records Section pull records afternoon before appointments, so doctors could read up on diseases patients will present with.

c. IAH: refurbish counter.

d. BNH: Go to punched card system, then (ultimately), on-line, real-time computer system using cathode ray tubes (CRTs).

e. KP:

(1) More room for wheel, so desks with partitions could be added.

(2) Additional wheel, so more clinics could be added.

(3) Better lighting.

(4) Ability for one clerk to handle two or three calls at once (supervisor's idea).

(5) All motorized tiers on the rotary file wheel.

(6) Ultimately, real-time, on-line computerized system; the KP system is reportedly considering this for several of the KP medical centers in the San Francisco area.

Section III - Experience and Recommendations of the Department of the Navy

11. The Hospital Administration Division, Bureau of Medicine and Surgery, Department of the Navy, Washington, DC, was visited on 28 Sep 72 (arranged by Management Analysis and Operational Studies Branch, OTSG). Person contacted: Mr. Showalter, Dept. of Navy civilian employee, management analyst, and project officer for hospital appointment systems.

a. The Chief of Naval Operations has directed installation of central outpatient appointment systems in all Naval hospitals and dispensaries by the end of FY 1973, based on the favorable experience of Bethesda Naval Hospital, which is considered to have been a pilot project. A letter was dispatched on 19 May 72 to 33 medical facilities giving guidelines for planning CASSs, and assurance that funds and staff would be made available. The planning data is based mostly on the experience at BNH, although equipment data for the Portsmouth, VA Naval Hospital (Appendix 33) and the Admiral Boone Clinic at the Little Creek, VA, Naval Amphibious Base (Appendix 34) are also included. Both VISIrecord and Acme Visible equipment is referenced. The following suggestions were to be considered:

- (1) Inclusion of all outpatient clinics.
- (2) Motorized rotary tiers (lazy Susans).
- (3) Visible files in VISIcard and Rotary Stands or in tubs (no mention of punched cards or books).
- (4) ACDS, with a single telephone number.
- (5) Prerecorded messages.
- (6) House phones for patients to use.
- (7) Plan on expecting 700 appointments per clerk per week (or 140 per day, 20 per hour, or one every three minutes). (NOTE: This figure of 140 per day appears in a recent edition of the DoD Space Planning Criteria for Departments of Clinics.)

b. Replies from some of the medical facilities queried about their plans were examined through the kindness of Mr. Showalter. Some interesting information from these replies:

- (1) Some hospitals refer medical questions the appointment clerks can't handle to a nurse in an adjacent office.
- (2) Staggered work hours for appointment clerks allows for longer coverage of the telephones.
- (3) The Oakland (CA) Naval Hospital has a CENTRAC Rotary File, modified to house 4 Veri-Visible tubs, with six clerk positions. It has an ACDS. Nine clinics are not on the CAS yet.
- (4) The Bremerton (WA) Naval Hospital has a CENTRAC with three tubs.
- (5) The following table compares the number of dependent and retired personnel outpatient visits to selected Naval hospitals in FY 1971 with the number of appointment clerks (including supervisors, usually on the wheel) in the CAS:

<u>Hospital</u>	<u>Visits per Yr.</u>	<u>Appointment Clerks</u>
San Diego, CA	483,000	9
Bethesda, MD	295,000	7
Camp Lejune, NC	179,000	3
Camp Pendleton, CA	165,000	6
Boston, MA	67,000	5

c. Mr. Showalter advises:

- (1) Separate clerk typists are not needed.
- (2) Use of triplicate forms in the Kardex files should be considered.
- (3) Separate telephone lines for cancellations.

Section IV - Findings in Phase II (Detailed Survey)

12. General description of central appointment systems at William Beaumont General Hospital, Fitzsimons General Hospital, US Martin Army Hospital, and US Darnall Army Hospital:

a. William Beaumont General Hospital (WBGH), El Paso, TX, was visited on 18-19 September and 6-10 November 1972.

- (1) Principal contacts were:

COL Frank Quinones, MC, C, Dept. Clinics and Community Health Care Services (CCHCS)

LTC John F. Davis, MSC, Admin. Asst, Dept CCHCS

CPT David J. Eckberg, MSC, C, Admin Sec. Dept. CCHCS

Mrs. Kathleen Jones, DAC, Supervisor, Central Appointment Section, Dept. CCHCS

(2) The WBGH CAS was established in 1969. Details of its operation may be found in WBGH Hospital Regulation 40-2-23 (Appendix 35). Briefly, as at the systems described in Phase I, the hub of the system is a circular rotary file, surrounded by clerks who make appointments to a number of clinics by telephone. No appointments are made "in person", or face-to-face. (A few are made by mail.) The CAS is located in an unmarked building at least a mile from the main (new) hospital building. Appointments are entered on Hollerith punched cards (WBGH Form 11-113) prepunched as to clinic, doctor, date, and time of day of appointment (Appendix 36). Thus, each card represents an appointment interval for the individual doctor or provider concerned. When a patient calls for an appointment, the patient's name, terminal digit number, telephone number, broad diagnostic code, age, medical record availability (depends on last visit), and certain other information are recorded on the card. Completed cards are key-punched by the CAS clerks who rotate through the adjacent key-punching room. (There is also one key-punch clerk, who rotates on the wheel.) Two days before the appointment day the cards are pulled from the "closed appointment" file and taken to WBGH Data Processing Branch, where the cards are run through an IBM 1440 digital computer, which prepares machine listings used for pulling the outpatient medical records. One is also prepared for each clinic and each

physician. These lists are distributed to the clinics by 1000 hours the day before appointment day by the CAS messenger. A list is also furnished to Radiology so that desired X-ray film files can be pulled, and delivered by the CAS messenger.

(3) For non-appointed patients, clinic personnel complete a punched card (Appendix 36) for each one and forward to the CAS for key-punching and processing. All of these cards--for appointed and non-appointed patients--are forwarded monthly to the Data Processing Branch for preparation of the Monthly Outpatient Report (RCS MED 80 (R1)).

(4) Physician's appointment schedules are submitted six weeks in advance on WBGH Form 11-114 (Appendix 37).

b. Fitzsimons General Hospital (FGH), Denver, CO, was visited 19-20 September and 13-17 November 1972.

(1) Principal contacts were:

COL Urban C. Throm, MC, C, Dept. Clinics and Community
Health Care Services (CCHCS)
Mrs. Marjorie Scheihing, DAC, Supervisor, CAS

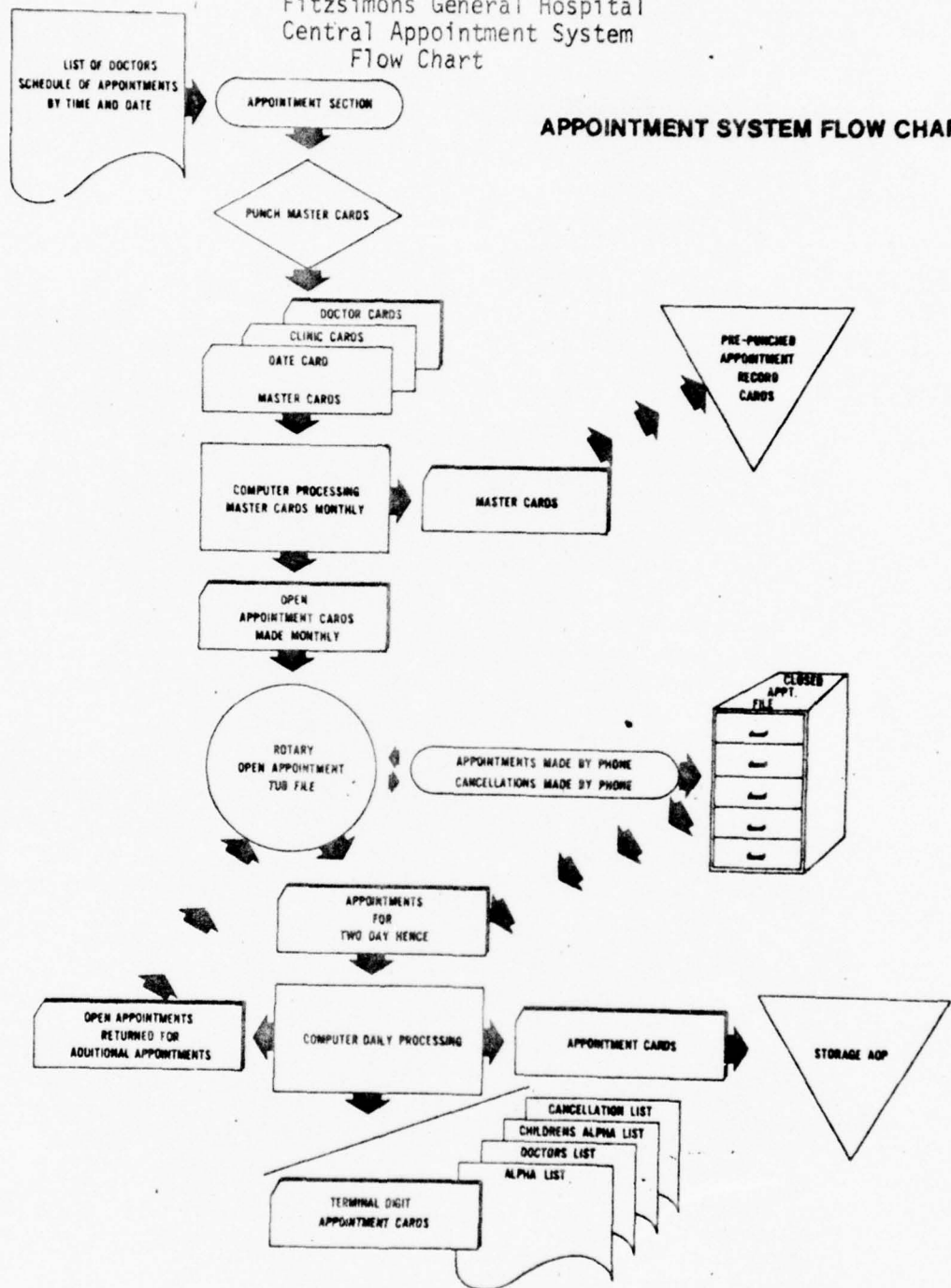
(2) The FGH CAS became operational in 1962. Details of its operation may be found in an article in Hospitals written by LTC Isabel Paulson in 1966¹⁶, and in a problem-solving thesis written by Constable³⁰. Like WBGH, the FGH system is also an off-line, batch-processed, computer-supported system utilizing punched cards (see Appendix 38 for card format). The system can be presented as a flow chart (Figure 2, from Constable³¹). The system is nearly identical to that of WBGH described above (as a matter of fact, WBGH borrowed ideas heavily from the FGH when setting up its system). There are some differences, however.

(3) One difference from WBGH is the use by FGH of a duplicate set of punched cards to pull patients' outpatient records; this set of cards, containing only the patient's name and terminal digit number, is produced by the Data Processing Branch in terminal digit sequence, so that the medical records clerk can go down a stack of records, pulling all the necessary records in the correct numerical sequence as he goes. The card is then used as a record charge-out card by being inserted in a plastic pocket on a larger charge-out guide. A machine print-out of appointments in alphabetic sequence (an "alpha list") is also furnished to the Outpatient Medical Section, which indicates thereon which record has been pulled and sent to a clinic, and which cannot be found. This is posted outside the record room, and is reportedly referred to often by patients as they check to see if their records have been sent to the clinic.

FIGURE 2

Fitzsimons General Hospital
Central Appointment System
Flow Chart

APPOINTMENT SYSTEM FLOW CHART



(4) The FGH CAS supervisor reported that FGH tried using loose-leaf binders to keep appointment lists in for a short time in 1962, but quickly found the punched-card system to be superior. They found that it eliminated hand-written lists and enables them to easily generate mechanically lists of appointments by patient name, by doctor, by clinic, and by terminal digit sequence.

c. U.S. Martin Army Hospital (MAH), Fort Benning, GA, was visited 27 November-1 December 1972.

(1) Principal contacts were:

COL H. Haskell Ziperman, MC, Commander, MAH
COL Paul Kaufman, MSC, Executive Officer
COL Ionno, MC, C, Dept. of Clinics
COL David Waugh, MC, C, Dept Surgery
COL Patrick Tisdale, MC, C, Dept Pediatrics
LTC Paul Anderson, MC, C, Dept Medicine
LTC Tom Sadler, MSC, Admin. Asst., Dept. of Clinics
Mrs. Coe, DAC, Supervisor, Central Appointment Desk

(2) The CAS at MAH was established at least 13 years ago (1959) but was open to in-person contacts and telephone calls in its previous location in the main Martin Army Hospital building. In 1968 it moved to its present location on the 3rd floor of the Hospital Annex (the old hospital), Bldg 396, and obtained the present rotary file with six positions. The CAS is described briefly in MAH Regulation No. 40-42, 10 May 72 (Appendix 39), and more fully in a problem-solving thesis by Elizondo 17. Appointments are by telephone only (with a few by mail). The MAH CAS is a manual system, the appointments being entered on 8in. x 10-1/2in. forms (see Appendix 40 for an example), one for each doctor's morning, afternoon, or evening appointments.

(3) Clinic schedules are supposed to be furnished two months ahead, but this is not always done. Appointments are by individual doctor only in OPC, Pediatrics, and Dermatology. Evening appointments are made for the new (since May 1972) FACS (Family Ambulatory Care System) groups--six per group--and are usually booked up by 0815 for that evening. Those lists and lists for other clinics in the Annex are taken to the Outpatient Medical Room (in the basement of Bldg 396) by 1200 that day by the CAS supervisor. The regular appointment lists for clinics in the main hospital are taken down by 1200 two days in advance.

(4) There has been a shortage of civilian CAS clerks since July 1972, so two enlisted men have been borrowed from elsewhere in the Dept. of Clinics to act as CAS clerks.

d. U.S. Darnall Army Hospital (DAH), Fort Hood, TX, was visited 4-7 December 1972.

(1) Principal contacts:

COL John B. Moyar, MC, Commander, DAH
COL Marshall, MSC, Executive Officer, DAH
LTC James E. McIntyre, MSC, C, Management Services Br
CPT Shilder, MSC, Admin Asst., Dept Clinics
Mrs. Ruby Dowling, DAC, Supervisor, CAS

(2) The DAH CAS was installed and became operational in June 1972. Its hub is a rotary file with five positions. Appointments are by phone (as well as a few by mail). There are two rotary ring-down systems used, necessitated by two local telephone systems: one direct from Killeen (the nearby town) and one through the Ft. Hood central telephone exchange. Details of the CAS are given in a recently revised DAH Regulation, a draft of which is provided in Appendix 41.

(3) Appointment schedules are provided by the clinics in a format like that in Appendix 42. Appointments are recorded on three-part carbonless paper forms (a sample of a morning schedule in Appendix 43, and an afternoon schedule in Appendix 44), prepared from the schedules furnished by the clinics. (Some of the information that a patient must provide is now going to be kept in the clinics on another form; therefore, the CAS supervisor is devising a new appointment card--not yet approved--shown in Appendix 45.) These appointment cards are kept in vinyl-covered Kardex files in the circular file.

(4) DAH has prepared forms for patients to use when writing down their appointments--see Appendix 59.

13. Comparison of the four hospitals (WBGH=William Beaumont General Hospital; FGH=Fitzsimons General Hospital; MAH=Martin Army Hospital; DAH=Darnall Army Hospital):

a. Operational data:

(1) Outpatient visits (general outpatient and specialized clinics) per month (average, Sep 1971-Aug 1972: data from Patient Admin. and Bio-statistics Br, OTSG):

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
63,800	53,100	40,700	41,200

(2) Outpatient visits appointed by CAS per month:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
17,106 (26.8%) (Oct 72)	7,617 (14.3%) (Oct 72)	15,466 (38.0%) (av. 703/day)	6,820 (16.5%) (av. 310/day)

(3) Number of clinics served by the CAS (and percent of total):

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
57 (64.7%)	35 (44.3%)	14 (35.0%)	24 (75.0%)

(4) Number of clinics not on the CAS (excluding troop Medical Clinics) (see Appendix 46 for identity of clinics):

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
31	44	26	12

(5) Number of calls handled or appointments made by CAS per day (data provided by CAS records):

(a) Calls handled:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
1,021	690	1,450	568

(b) Appointments made:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
805	383	703	310

(6) Length of average call in minutes (see Appendix 47):

	<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
(a) All calls	1.90	1.70	1.81	1.97
(b) Appt. calls	2.07	2.19	2.22	2.41
(c) Info. calls	0.69	0.90	0.95	1.16

(7) Frequency of information calls (same methodology as in Appendix 47):

	<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
Range	7-34%	33-46%	19-43%	30-42%
Average	14%	38%	32%	36%

(8) Number of phone positions (desks) in CAS:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
10	7	6	5

(9) Number of total phone lines available to CAS office:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
11	15	10	6

(10) Number of phone lines in use on Automatic Call Distribution System (ACDS) or rotary ring-down system:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
8 (ACDS)	8 (one 3-line rotary for on-post calls, one 5-line rotary for off-post calls)	6 (rotary)	6 (one 3-line rotary for on-post calls, one 3-line rotary for off post calls)

(11) Number of in-house phones reserved for patient use:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
1 (GYN C1, direct)	5 (direct lines)	3	5

(12) Number of separate lines (unlisted) for administrative use:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
1 (supervisor)	2 (1 for supervisor, 1 for CAS clerks)	4 (supervisor)	None

(13) Number of lost calls (telephone calls to the CAS attempted, but not completed due to all available telephone positions being busy):

WBGH (week of 13-17 Nov 72)
29.5% (see Appendix 48)

FGH, MAH, DAH: unavailable; no meters in central telephone office to provide this information.

(14) Hours of operation:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
0730-1130 1230-1630, Mon-Fri	In-house phones: 0800-1615 Outside phones: 0800-1600	0800-1600, Mon-Fri	0730-1630, Mon-Fri

(15) CAS personnel actually assigned:

	<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
Supervisor	1(GS-6)	1(GS-6)	1(GS-5)	1(GS-4)
Sr appt clk	1(GS-5)			
Appt. clerk	8(GS-4, temp GS-3)	6(GS-4)	6(3 GS-4, 3EM(E4,E5,E6))	5(GS-3)
Key-punch				
Operator	1(GS-4)	2(GS-3)		
Messenger	1(GS-2)			
Other				
TOTALS:	12	9	7	6

(16) CAS personnel that can actually make appointments:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
11	9	7	6

(17) Average number of clerks actually on CAS phones, taking into consideration sickness, leave, key-punch duties, etc. (full-time equivalents):

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
5	5 1/2	6	5

(18) Number of phone calls per clerk (no. calls per day, (5a) above):
(full-time equivalent, (17) above)

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
$\frac{1021}{5} = 204$	$\frac{690}{5.5} = 125$	$\frac{1450}{6} = 242$	$\frac{568}{5} = 114$

(19) Number of appointments made per clerk per day
(no. appts. made per day, (5b) above)
(full-time equivalents, (17) above)

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
$\frac{805}{5} = 161$	$\frac{383}{5.5} = 70$	$\frac{703}{6} = 117$	$\frac{310}{5} = 62$

(20) Number of doctors and other providers served by each clerk:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
$\frac{82}{5} = 16+$	$\frac{105}{5.5} = 19+$	Unk.	$\frac{50}{5} = 10$

(21) Maximum time in advance appointments can be made:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
2 mo.	2 mo.	4 mo. (Allergy cl)	2 mo.

(22) Average appointment backlog (as of date of visit):

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
3 days to 6 wks (av. 18 days)	1 day to 30 days (av. 11 1/2 days)	2-3 weeks	none to 1 mo; av. 9 days

(23) Latest time appointments can be made via CAS (if available):

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
2 days before (same day for certain clinics)	2 days before (same day for certain clinics)	1200 hrs day before	1500 hrs day before

(24) How long-lead time appointments are handled:

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
No special procedure	Call in when appointments open	Not handled	Not handled

(25) Patient cancellation rate (See Appendix 49):

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
6.4%	4.9%	4.6%	8.8%

(26) Patient no-show rate (see Appendix 49):

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
4.5%	1.8%	15.1%	9.5%

(27) Appointment intervals per clinic: see Appendix 50.

(28) Hours of clinic work per clinic per week: see Appendix 51.

(29) Clinics that use modified block appointments (more than one patient appointed per appointment interval, with appointments to the clinic, not to individual doctors, as shown in Table 1.

TABLE 1
Clinics that use Modified Block Appointments

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
Obstetrics and related Subspecialties	General gynecology	Optometry	General pediatrics
Gynecology and related Subspecialties	Complicated gynecology	Allergy	Diet therapy
	Routine PAP smear		
Orthopedic-new patients	Oncology	Orthopedic	Surgical
Pediatric (some patients)	Neurology	Cast	Orthopedic
Surgical	Postpartum	Podiatry	Well-baby(4 clinics)
Hand	Pediatric allergy	Surgical	Obstetric history
Family planning	Plastic surgery	Proctology	Podiatry
	Tuberculosis	Suture removal	Cast
	General surgery	Urology	
	Suture clinic	Well-baby	
	Urology		
	Vasectomy		
	Family planning		
	Dermatology		

(30) Clinics that permit self-referrals by patients for first visit: see Table 2:

b. Descriptive data:

(1) Appointment filing equipment and supplies:

(a) The WBGH rotary file (built by Acme Visible Records, Inc., in 1969 at a cost of \$10,000) has five concentric tiers, one above the other, each tier holding the appointment cards. The lower two tiers are motorized, with two sets of three buttons each (forward, reverse, and hold) at each desk. The central rotary file wheel is 87 1/2 inches in diameter; it is surrounded by a 14-inch table surface, for an overall diameter of 115 1/2 inches. There are 10 desks surrounding the unit, at right angles to it. The rotary file has a capacity of 88,000 punched cards. The top tier holds doctors' and clinics' schedules, as well as clinic SOPs and other reference materials.

(b) FGH:

1 The FGH rotary file (built by the Wassell Corp. at a cost of \$4,500 in 1970) has three concentric trays, each one a little higher than the other as one progresses inward. In the center is a slightly raised "lazy Susan" platform holding doctors' clinic schedules (not SOPs). The three concentric trays hold the individual pre-punched appointment cards, which are filled out with the patient's name, etc., when an appointment is made. The wheel has a capacity of 36,000 cards. It is built with all three trays as a unit; the whole file is motorized, moving one way at the touch of a button, reverses at the touch of another button, and holds at the touch of a third. Each desk has all three buttons.

2 The FGH CAS staff profess to like the low profile of their file because they can see over it and see one another. Also, they can easily lean over each tray, look down on each bunch of cards (for each doctor or clinic for each day) and conveniently select the desired card. The "high-rise" file at WBGH permits the clerk only an end-on view of the cards. However, this does not seem to be a problem for the WBGH clerks, who can easily select cards from the files, especially if there is some extra room in each slot (which is three inches wide).

3 The fact that the three trays of the Wassell table do not rotate independently is seen by the CAS clerks to be a definite disadvantage. All three trays should be separate, motorized, and move independently. The WBGH clerks think that it would be wise if all five tiers were motorized, but appear quite used to moving the top three by hand. However, there are purposefully few cards in the top three tiers;

TABLE 2

Clinics that Permit Self-referrals by Patients for First Visit

<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
All but Troop Medical Clinics	On CAS: General outpatient	General outpatient	General outpatient
	Podiatry	General pediatrics	General pediatrics
	General surgery (breast exam only)	Well-baby	OB/GYN problems
	Obstetrics (prenatal)	Podiatry (warts)	Optometry
	Allergy Optometry	Allergy	Well-baby
	Dermatology	Optometry	OB history (prenatal)
	Not on CAS: General pediatrics		
	Dental		

thus, their inertia is smaller, and they are easier to move. With a capacity load of cards, moving the top tiers by hand might be considerably more difficult.

(c) MAH:

1 A rotary file is used that was fabricated locally by one of the hospital physicians in 1968. It is made of plywood, with a one-tier lazy Susan in the center. The table is circular, and the six clerks sit facing the center; there are no separate desks for the clerks. The table itself is 6 ft. 10 inches in diameter; the lazy Susan file is 3 ft 1 1/2 inches in diameter. It is not motorized. The file "wheel" has vertical sections, each capable of holding three appointment books. Thus, capacity of the current equipment is 36 books; it now contains 32. Each book contains appointment sheets for one clinic or a group of doctors. The CAS room also contains six secretary-type swivel chairs without arms for the clerks, a desk and chair for the supervisor, a settee, two arm-chairs, two wooden cabinets, a refrigerator, a coat rack, and a coffee pot.

2 One of the clerks (employed in the appointment system at MAH for 13 years) complained that the rotary file equipment is too fatiguing--she feels excessively tired at the end of the day. She feels the file is too heavy to be rotated manually. She also states that, while the books seem too far away for her to comfortably reach, at the same time the portion of the circular table in front of her does not have enough room for her working papers when she is making appointments.

(d) DAH:

1 An Acme Visible Records rotary file is used (Appendix 52). There is a two-tier wheel, each tier rotating independently. Each tier is motorized. The rotating wheel is 6 ft. 6 inches in diameter, on a table 8 ft. 10 inches in diameter. Five desks (each 3 1/2 feet in length) are placed at right angles to the wheel over about two-thirds of its circumference: the remainder of the unit is against the wall, due to lack of space (see Appendix 53).

2 Clinic appointment schedules are kept in vinyl-covered Kardex units, each of which measures 11 1/2 inches long by 9 1/4 inches wide by 3/4 inch thick. Each Kardex weighs 2 lb. 3 oz., and holds 21 cards. Thus, each Kardex will hold 21 days' schedules for one doctor--that is, one month's schedule. Half the Kardexes are red, half are blue. Each tier has 192 vertical slots, for one Kardex each. There are thus 384 available slots; only 255 are currently used. Separate Kardexes are used for each morning and each afternoon.

3 The available times are indicated on the edge of each card (see Appendices 43 and 44). Unavailable times are indicated

by an "X". Cancellations are made by applying white typists' correction tape to the line to be cancelled on all three copies of the appointment card (this is time-consuming, but effective). Appointments are closed at 1430 for the next day's appointments. One of the CAS clerks pulls all the cards from the Kardexes (a one hour's job). One copy is picked up by the Outpatient Medical Records Section, which then accompanies the stack of records to the clinic; one copy goes directly to each clinic, and the third copy is kept in the CAS for three months--in case of loss of the other copies, and to enable the CAS to verify appointments (a not infrequent requirement).

(2) Dimensions of CAS room or facility:

- (a) WBGH: 53 ft. x 25 ft., including key-punching machine room and two latrines
- (b) FGH: 20 ft. 2 in. x 18 ft. 8 in.
- (c) MAH: 17 ft. 3 in. x 14 ft.
- (d) DAH: 22 ft. 6 in. x 14 ft. 2 in.

(3) Telecommunications:

(a) WBGH:

1 The WBGH CAS has an Automatic Electric Company Automatic Call Distribution System (ACDS), or "stacker," in which incoming calls are automatically routed in sequence to the clerks as the calls arrive. When all eight clerks are busy, eight more calls can be held by the ACDS. More than eight of those "second order" calls cannot be handled, so additional callers get a busy signal. When a call is put on the ACDS, a recording comes on, asking the caller to wait for a clerk (see Appendix 54). Other recording can be put in the system at any time via a telephone handset attached to the recorder. The recorder also has a "Vu-Meter" that vibrates more or less vigorously according to how many calls are stacking up. This tells the supervisor when she should start taking some calls. The meter is not quantitative, however, it seems. This ACDS is felt to be very useful.

2 At WBGH any caller can be transferred to the supervisor's desk phone if there is a problem a regular clerk cannot handle, or for any other reason. There is only one in-house line to the CAS (from the GYN clinic); the CAS personnel agree that there should be more. Some in-house lines were disconnected on the move to the new hospital in August 1972. Clinic personnel point out the great advantage of an in-house phone in the clinic for making return visit appointments.

(b) FGH:

1 At FGH there is not yet an ACD device, although one is being installed (January 1973). At present there is no way to keep

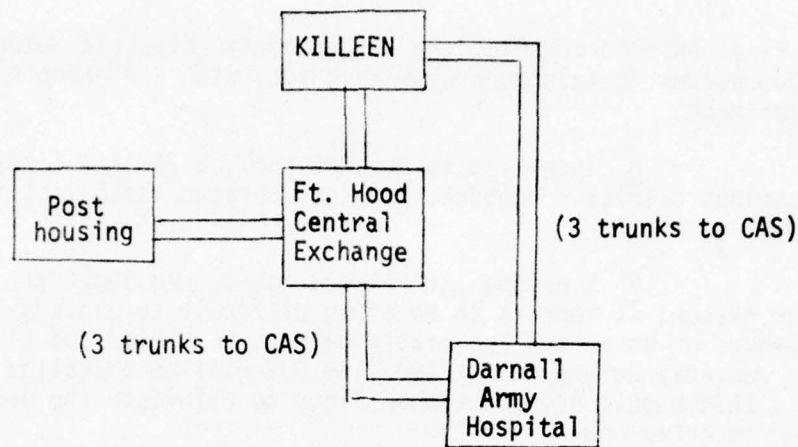
track of which calls come in first. When all lines are in use, subsequent callers receive busy signals. There are five off-post direct dial lines, three on-post lines, five in-house lines (two by the outpatient clinic, one on 1 East (Department of Medicine), one on the fifth floor (Department of Surgery), and one at the OBC receptionist's desk; there is also one unlisted number for use by clinics and doctors. The in-house phones have no dial--they are connected to the CAS by simply lifting the receiver from the cradle. However, waits for the operator on the in-house lines may be 20 minutes or more during busy periods (see Constable 31). The incoming unanswered calls have lights that blink on all lines but the in-house ones. This makes it very difficult to determine the sequence of in-house calls. There is also no way to connect the CAS clerks with the supervisor's desk. Each clerk uses a Western Electric Call Director, which works well.

2 The Automatic Call Distribution System being installed at FGH will include large telephone trunks that will handle ACD calls, two recorder-announcer units, a supervisor's position instrument, with other necessary equipment. Cost of the new system: \$17,600. It will have a capacity of 10 operators' positions, plus a capability of expanding to 50 positions by adding additional circuitry. Further details about specifications in this contract (from GTE Automatic Electric, Inc., Northlake, IL) are available in the Health Care Research Division.

(c) MAH has a simple six-number rotary ring-down system. Calls are automatically switched from the lowest to the highest number, depending on which lines are busy. If all six lines are busy the person calling will get a busy signal. One unlisted number is used by Troop Medical Clinics, other clinics, and other installations to communicate with the CAS. This line is one of four on two telephone instruments on the CAS supervisor's desk. To use these phones the CAS clerks must get up from their chairs and walk to the desk--there is no telephone communication between the CAS clerk and the supervisor. Furthermore, each clerk has a regular telephone five-key telephone instrument (plus one hold button), so no clerk has all six lines. None of the unlisted numbers is connected to any of the clerks' positions. While in the hospital, patients may use regular telephones in several clinic areas to call the CAS.

(d) DAH:

1 There are two rotary ring-down systems of three lines each: one is for post calls, and one is for off-post calls. The telephone system is leased to the Mid-Texas Telephone Company, Killeen, Texas, which operates it. The system may be diagrammed as follows:



2 Each CAS clerk has a regular five-key telephone instrument, plus one hold button. Thus no clerk has all six lines. The supervisor also has only five lines. There are no separate lines for CAS-clinic communication. All incoming calls ring audibly, although relatively softly. When all clerks are busy, one must stop for each incoming call, say "Central appointments, will you hold the line, please?", and put the individual on hold. It is impossible to tell which rotary system called in first.

3 Each clerk uses a Pacific Plantronics headset. However, to use these, the regular receiver must be left off the hook--they cannot be disconnected. (This has caused several complaints from patients who have been able to glimpse this, and who have then accused the CAS clerks of purposely leaving the phones off the hook to avoid taking calls: "No wonder we get so many busy signals", they say).

4 There are five telephones on the wall in clinic areas for patients to use in calling the CAS. These are not direct lines, but merely regular telephones that patients dial to enter the three-number on-post rotary system.

5 On each rotary system there is connected an Electronic Secretary, which intercepts all incoming calls after duty hours with a recording:

You have reached the Central Appointment System, Darnall Army Hospital. Appointments may be made during the hours of 730 to 1630 Monday thru Friday. You may call anytime during these hours to obtain your appointment. This section is closed on all official holidays and weekends. Please call 685-2137 if you are calling from on Post. If you are calling from elsewhere please call 526-6661.

THANK YOU

The two Electronic Secretaries are the Automatic Electric Company Model AO-3 automatic telephone answering set, with a 30-second announcement tape.

6 There is, in the CAS room, a 24-line intercom set to the various clinics. However, for some unknown reason, it is not connected.

7 Everyone interviewed complained about the local telephone system; It appears to be often difficult to place a telephone call anywhere on-post, and especially between Fort Hood and Killeen. It has been recently agreed that a 400-line PBX will be installed in the hospital; this should provide enough lines to alleviate the overloaded condition reported now.

(4) Headsets:

(a) Both FGH and WBGH use Model MS50/T55-16 headsets from Pacific Plantronics, Inc., P.O. Box 635, Santa Cruz, CA 95060. These headsets can be used with a headband (which the girls do not like because it musses their hair), or an eyeglasses clip (preferred by both FGH and WBGH). However, FGH reports that the clips push the spectacle frames down on the nose, and tend to break the temple piece. The FGH supervisor is ordering headsets that fit around and into the ear. Now, many FGH clerks use a conventional telephone hand piece. All WBGH clerks use the Plantronics headpiece.

(b) MAH: All but one clerk uses the regular telephone handset; one clerk likes and uses a Pacific Plantronics headset. The other clerks claim the headset is uncomfortable.

(c) DAH: All the clerks use Pacific Plantronics headsets.

(5) Standard Operating Procedures Files: It is important that each appointment clerk know intimately all the necessary details of clinic operations--what kind of patients are to be scheduled for what day of the week, etc. This large volume of data is handled in various ways:

(a) At FGH it is kept in conventional nurses' Kardex files on each clerk's desk or in desk drawer. Much of this information is also posted on hand-written signs taped in back of and above each stack of appointment cards for each doctor or clinic. Schedule information is also in binders in the center of the file table.

(b) At WBGH most of the data were in the SOPs on the fifth tier. Each clerk had her own file, also, in flip-card files on her desk top: the Rolidex File Jr., Model No. V535-J, by the Zephyr-American Co.

(c) At MAH the SOPs are filed in the appointment books, and on cards and other pieces of paper on the desk surface in front of each clerk.

(d) At DAH the SOPs are kept in a Kardex (like the appointment Kardexes) on each clerk's desk. This appears to be a convenient method of organizing this material.

(6) Personnel duties:

(a) At both FGH and WBGH all CAS personnel are cross-trained in both appointment-making and key-punching. At FGH each clerk spends one day out of six or seven (depending on the number of clerks on hand) key-punching for one whole day.

(b) At WBGH each person uses the key-punch machines one hour every day. The supervisor feels this gives the clerks more of a break in the demanding duty on the telephone. She also insists on the clerks taking two 15 minute coffee breaks every day. This is felt to be important to enable them to be polite to everyone who calls. At WBGH a lounge area is partitioned off of the remainder of the CAS room. At FGH there is a lounge area, but no partition. At MAH and DAH there are no lounges.

(7) Key punching machines:

(a) At both FGH and WBGH the key-punching machines and verifier are in separate rooms opening off the CAS room. The door between them is usually open at WBGH, usually closed at FGH. Noise is not much of a problem at WBGH, but seems worse at FGH. Only the ceilings have acoustic tile at each place. At WBGH there are two relatively new IBM Model 29 Card Punches, and one IBM Model 59 Card Verifier. At FGH there are two older IBM Model 26 Printing Card Punches and one IBM Model 56 Card Verifier.

(b) Both FGH and WBGH agree that having CAS personnel key-punch their own ADP cards keep errors down (it is nearly zero in both places), speeds up the process of key-punching by eliminating another distant party from the process, and gives the clerks a welcome break from the telephone.

(8) Supervisor:

(a) At one time at WBGH the CAS supervisor was a nurse, in order to answer patients' medical questions that the clerks could not. However, for the last eight months a non-nurse has been supervisor. This individual, a very experienced female DAC who has spent many years as a typist and clerk in the Department of Orthopedics, and elsewhere in WBGH, feels that she practically knows Dorland's Medical Dictionary by heart. She is able to answer many questions about what clinic a certain problem should be referred to. She doesn't feel a CAS supervisor needs to be a nurse. At FGH the CAS supervisor has never been a nurse; she has had some experience as a telephone operator, however. Both were highly regarded by other members of the hospital staff.

(b) At both MAH and DAH the CAS supervisor has worked elsewhere in the hospital clinic system (at DAH she had been a secretary in the Pediatric Clinic). Other members of the hospital staff spoke very highly of both of these individuals.

(9) Liaison with clinics: The CAS supervisors at all four hospitals stressed that liaison with the doctors and the clinics was essential. The supervisors at WBGH, FGH, and DAH frequently got out and visited the doctors and clinics to ask what their problems and dissatisfactions were, and to tell them some of the problems the supervisor was noting in the CAS. This did not seem to be as striking at MAH, but there the supervisor had only been in the job for about three months.

(10) Medical records charge-out system:

(a) One of the great advantages of an appointment system is that it makes it possible for patients' medical records to be pulled and delivered to the clinics before the patients are seen. At WBGH the records are pulled according to the list of names furnished by the CAS (via the Data Processing Branch). At FGH the DP Branch duplicates the appointment card for use in Medical Records. It is inserted into a clear plastic pocket on a larger charge-out card, thus indicating when the record was charged out, and where it should be located. The cards are also furnished in terminal digit sequence, so the records can be easily pulled. This appears to work very well.

(b) At MAH the appointments are on a sheet of paper containing about 23 appointments per page. The medical records are pulled the evening before the appointment by one of two evening duty personnel (usually civilian employees). The names on the appointment lists are not in terminal digit numerical sequence. According to one of the medical records clerks it takes about 40 minutes to process 23 appointments, including the placing of charge-out cards in the file (in a separate section).

(c) At DAH, the records are pulled in the afternoon and evening before the appointment day. So far the Medical Records Section personnel have not been able to put charge-out cards in stacks for these records. Clinics pick up records about 0730, the day of appointment. The Medical Records Section is going to start keeping the white copy of the appointment lists to indicate where the records have been charged out to.

(11) Reports:

(a) At WBGH the appointment cards indicate whether a patient was on appointment or a walk-in patient. (This is done by clinic personnel for walk-ins). This makes it possible for a report to be issued monthly on the break-out of appointments vs walk-ins for each clinic.

(This doesn't appear to distinguish between appointments made by the clinic itself and those by the CAS; it could, however, by changing the card slightly, I believe.)

(b) FGH ceased identifying appointments vs walk-ins on its appointment cards some time ago. No use was apparently made of the information.

(c) WBGH produces weekly a report that would appear to furnish valuable management information: it lists the first available appointment, and the number of appointments made that week by CAS. Thus, it enables the clinic chief to monitor the clinic appointment backlog.

(d) MAH:

1 A daily count is kept of the number of appointment-related and information-only telephone calls received, and the number of appointments made, by each clerk; This is done by means of a running hourly tally kept on a 3 x 5 inch piece of paper by each clerk. The daily log is shown in Appendix 55. This is correlated with the number of productive and non-productive man-hours each day, and submitted monthly as a "Daily Performance Record" report to the Management Services Office.

2 A report on the number of appointments made in the FACS (Family Ambulatory Care System) is submitted weekly to the Chief, Dept of Clinics.

(e) DAH:

1 A weekly report on appointment backlogs (Appendix 56) is forwarded to the Chief, Dept of Clinics and to the hospital Adjutant. A daily clinic check list (Appendix 57) is used by the CAS clerks to record this information. Each clerk uses a Veeder Root digital counter (such as those used in hospital laboratories) to count up the calls. It should be realized that some calls result in more than one appointment, so recently a count of the number of actual appointments made per day was begun. This is done by counting the number of appointments recorded on the appointment cards when they are collected at 1430 by one of the clerks.

2 A Time and Production Record is prepared monthly, giving the hours worked and number of calls received each day.

(12) Changing doctors' and clinics' schedules:

(a) WBGH requests a 30-day notice for a doctor to change his schedule (see Appendix 58 for form used) or for a clinic to change its schedule. This gives the system an air of rigidity. Often the doctors do not know a month in advance that they will be absent for a conference etc. However, changes with less advance notice are often made.

(c) MAH: No formal approval is required; no form is used. Cancelling of a doctor's appointments is done simply by the clinic secretary calling the CAS.

(d) DAH: Changes are made by DF to the CAS. Doctors' leave requests are hand-carried in to the CAS and shown to the supervisor. Some cancellations result because physicians are given the next day off when they are POD (Professional Officer of the Day), and optometrists are given the next day off when they are AOD (Administrative Officer of the Day). Neither roster is published more than two weeks in advance.

(13) Short lead-time appointments:

(a) At WBGH, these are handled effectively by CAS, especially for Pediatric Clinic, which always has two walk-in doctors. Parents can call in with a sick child, have an appointment made for one to two hours hence, and the CAS will notify the Pediatric Clinic by phone. Thus, this cuts down on waiting in the clinic. These are called "controlled" walk-ins.

(b) At both WBGH and FGH, unused appointments when the appointment cards are turned in to Data Processing 48 hours ahead of the day of appointment are continued to be appointed, then called in to the clinics. At FGH, the open appointments are printed on the clinic appointment printout, so that they can be used for walk-ins, if not filled by telephone.

(c) At MAH, after the appointment lists are turned in, patients are told to call or go directly to the clinic concerned.

(d) DAH: no special procedures.

(14) Messenger service: At WBGH a messenger is assigned to the CAS to deliver and pick up cards and printouts. He travels between the CAS, the Data Processing Branch, and the clinics. He also files cards in the CAS. He is thought to be very useful. None of the other hospitals has any CAS messenger service.

(15) Physical environment:

(a) WBGH: the CAS is in a building of its own about a mile from the hospital. It is not marked and not accessible by patients. The room containing the CAS file is carpeted, has curtains on the windows, is air conditioned, and had one picture on the wall. The key-punch room has acoustic tile on the walls. There are two latrines in the building. One corner of the CAS room has been partitioned-off with office partitions for use as a lounge; it contains a refrigerator, settee, table with coffee pot, coat rack, magazines, etc.

(b) FGH: the CAS is in an unmarked room on the first floor of the old cantonment buildings to the rear of the main hospital (about 20 meters from it). It also is carpeted, with curtains on the windows, one picture, and air conditioning (a window unit). There is no separate lounge, although there is an attached latrine.

(c) At MAH the CAS is on the third floor of the Hospital Annex (the old hospital, built in the 1920's) in a former operating room. The lower six feet of each wall is covered with green ceramic tile; the upper portion of each wall and the ceiling is covered with acoustic tile. There are four fluorescent light fixtures over the wheel (the light appears adequate). The floor is a solid black linoleum. There are green curtains on the window, a large window, and one picture and two large cartoon figures on the wall. The room appears rather crowded. There is no lounge area, except for the one settee and the coffee pot and refrigerator around the walls of the 14 x 17 ft. room. A nearby room formerly used as a lounge had been taken over as an office. There was no latrine nearby. For relaxation the clerks leave the CAS room and walk up and down the corridor. The CAS room is not accessible by patients, although it is identified with a small sign next to the door. The air conditioning system is said to be very inadequate.

(d) At DAH the CAS is just off the main OPC waiting room in what was formerly the information desk. To accomplish the conversion to a CAS glass was installed from the top of the counter to the ceiling, and nearly (but not quite) opaque curtains were hung. To further block off the area a number of posters giving information about CHAMPUS have been placed on the glass around the CAS. The area is identified as the CAS by several signs, and it is relatively easy to see into the room by looking around cracks and between panels of the curtains. To discourage patients from coming into the CAS (although a few still manage it), the door is kept locked. A sign on the door states: "Appointments made by telephone only. DO NOT ENTER". To be admitted, one must knock, and either the supervisor or one of the CAS clerks must come let you in. There is no lounge for the clerks, no refrigerator, and no coffee pot. The clerks often use a coffee pot in the Dept of Clinics, and the snack bar in the basement. Air conditioning and heating is adequate. There is acoustic tile on the front half of the room.

(16) Procedures or systems that have seemed to work well (not mentioned previously):

(a) The Pediatric Clinic at WBGH uses one particular CAS clerk for liaison purposes--they call her concerning changes in the clinic schedule, for example. This one clerk then disseminates this information to the other clerks.

(b) In the WBGH Pediatric Clinic the clinic nurse appoints drug detail men for the coffee room on certain designated days, up to

several months in advance. Thus, they do not bother the doctors at inconvenient times and disrupt scheduled appointments.

(c) The assistant chief of one of the WBGH clinics makes a point of visiting the CAS at least once every three months, to maintain active liaison with the CAS supervisor and clerks.

(d) The GYN Clinic at WBGH has an "Urgent Cases Clinic" for 1/2 hour every Tuesday to take care of patients who could or should not wait for a routine appointment. Many of these are follow-up patients told to come back then by a doctor.

(e) At MAH three of the six CAS clerks are males (enlisted personnel). It has been noted by others that the presence of male clerks tends to hold down the amount of light conversation between the female clerks. No adverse comments from female patients are known to have been received. (However, it was my observation that their voice quality was not as pleasing to the ear as that of the female clerks.)

(f) DAH appeared to have a well-organized training program for new CAS clerks. First, the new clerk spends one or two days observing the operation in each clinic served by the CAS. Then, they attend a customer relations course given by the Civilian Personnel Training Officer. Finally, the new clerks get detailed instructions on the following subjects:

- 1 How to use the headset and telephone.
- 2 How to use wheel file and books.
- 3 How to make an appointment.
- 4 Orientation of clinics outline.
- 5 Doctors schedule book and making appointment cards.
- 6 CAS area, supplies.

Several of these subjects are already committed to writing, and the others will follow.

(g) DAH has developed small appointment reminder forms for patients which are stocked in all clinic areas (but not next to the in-house phones) (see Appendix 59).

c. Results of staff survey:

(1) One hundred and sixty four staff members at the four hospitals were surveyed by either interview or questionnaire (mostly interview), as follows:

Table 3

Classification of Staff Respondents

<u>Staff Category</u>	<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>	<u>Totals</u>
Physicians	45	37	29	33	144
Optometrists		3	5	2	10
Podiatrists	1		2	1	4
Audiologist				1	1
Nurse clinicians		1	1		2
Clinic NCOs		1	2		3
TOTALS	46	42	39	37	164

As can be seen, most of the respondents (87.8%) were physicians. Sample interview schedules (also used as questionnaires) are in Appendices 3 and 4.

(2) Frequency distributions of the answers given by respondents may be found in Appendices 60 through 63, as follows (included are essay-type responses to the last question (number 15) on each questionnaire):

WBGH: Appendix 60

FGH: Appendix 61

MAH: Appendix 62

DAH: Appendix 63

It should be realized that some of the comments relate only to specific procedures or problems at one hospital, and may not be more widely applicable. It is believed, however, that these comments do give considerable insight into what bothers staff members about the central appointment systems, and what should be done about these problem areas.

(3) Table 4 presents a comparison of the four hospitals, with an "X" indicating the hospital with the greatest ratio of favorable responses to unfavorable responses. Detailed comparisons are presented in Appendix 64.

(4) The absolute number of responses from each hospital is not large, so rigorous statistical analysis is generally not possible. However, some specific comparisons are of interest. To the general question (number two)--as to whether the respondent likes the hospital's CAS--the results were as follows:

Do you like this hospital's Central Appointment System (CAS)?

	Yes, plus Yes, in some ways	No	No opinion
WBGH	42 (91.4%)	2 (4.3%)	2 (4.3%)
FGH	40 (95.2%)	2 (4.8%)	
MAH	29 (74.4%)	10 (25.6%)	
DAH	33 (89.2%)	3 (8.1%)	1 (2.7%)

Table 4

Comparison of Staff Survey Reports
(X = most favorable)

<u>Question</u>	<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
3. Like the hospital's CAS				
4. Use only the CAS to schedule follow-up patients	X	X		
5. Can have patients appointed for the next day via the CAS				X
6. Can have patients appointed for 2 days hence via the CAS				X
7. Appointment lists usually accurate	X			
8. Medical records usually available	X			
9. Patient x-ray files usually available	X			
10. Easy for doctor to cancel his appointments				X
11. Easy to work in extra patients via CAS	X			
12. Least amount of idle time	X			
13. Fewest feel rushed seeing patients				X
14. Fewest erroneous appointments		X		

Thus, with respect to the greatest percentage of favorable responses, the ranking is as follows;

FGH: 1st
WBGH: 2nd
DAH: 3rd
MAH: 4th

WBGH and FGH are significantly different from MAH ($p < .01$) and from DAH ($p < .05$) as far as this question is concerned.

(5) The questions about the availability of medical records and of x-ray files when patients are seen do not take into account the systems in the hospital other than the CAS that affect the availability of these items. Furthermore, usually only the Orthopedic Clinic routinely requests the x-ray files. WBGH appeared to have the only formal system for the CAS to request the x-ray files (see Appendix 35).

(6) In summary, it can readily be seen that, while FGH had the greatest proportion of staff members that liked the CAS in general, more WBGH staff members responded favorably to more of the questions about the details of the central appointment system operation than any of the other three hospitals. While it is therefore difficult to distinguish between WBGH and FGH in terms of staff satisfaction with the CAS, it does appear that the two hospitals (WBGH and FGH) using a punched-card, computer-supported system had greater staff satisfaction with their central appointment systems than did the two hospitals (MAH and DAH) not using such a system.

d. Results of patient questionnaire survey:

(1) Two thousand, two hundred fifty four useable questionnaires (Appendix 2) were returned from patients at the four hospitals, as follows:

WBGH: 678
FGH: 651
MAH: 484
DAH: 441
TOTAL: 2,254

(2) Frequency distributions of the answers given by respondents, together with a listing of responses made by patients to the open-ended question (question 18) at the end of the questionnaire, may be found in Appendices 65 through 68, as follows:

WBGH: Appendix 65
FGH: Appendix 66
MAH: Appendix 67
DAH: Appendix 68

(3) The following Table presents a comparison of the four hospitals with respect to responses to the patient questionnaires, with an "X" indicating the hospital with the greatest ratio of favorable responses to unfavorable responses. Detailed comparisons are presented in Appendix 69.

Table 5

Comparison of Patient Questionnaire Results
(X = most favorable)

<u>Question</u>	<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
2. CAS convenient		X		
3. Fewest busy signals	X			
4. Medical records available	X			
5. X-ray file available	X			
6. Fewest patients feel rushed with doctor			X	
7. Reasonable waiting time			X	
8. Able to get information from CAS	X			
9. CAS clerks knowledgeable, re illnesses	X			
10. CAS clerks courteous	X			
11. Able to make multiple appointments	X			
12. Able to reach CAS while within facility		X		
13. CAS can handle short-lead-time appts.	X(tie)	X(tie)		
14. Clerks take personal interest	X			
15. Able to get appointment with doctor desired			X	
16. Able to get appointment as soon as desired			X	
17. CAS works well		X		

(4) The ranking of hospitals on the general question about convenience about the CAS (question 2) is as follows:

FGH	(93.0% yes)	1st
MAH	(92.4% yes)	2nd
WBGH	(92.2% yes)	3rd
DAH	(82.3% yes)	4th

The same ranking occurs with question 17 (Does the CAS work well?).

(5) In summary, it appears that, as in the staff survey, FGH has the greatest proportion of patients who liked the CAS in general, while more WBGH patients responded favorably to questions about the details of the appointment system at WBGH than they did at FGH.

14. Filing and appointment - making equipment and supplies. During both Phase I and Phase II an effort was made to determine the state of the art as far as filing and appointment-making equipment and supplies were concerned. The following information is furnished to give those designing a CAS an idea of what equipment and supplies are available.

a. Although Diebold, Inc. manufactures mechanized files, the only installation I discovered using Diebold equipment in a CAS is Womack Army Hospital, Ft. Bragg, NC. Details on their system are in Appendix 25. Diebold equipment is on General Services Administration (GSA) Federal Supply Service contract no. GS-00S-14509 (valid 1 Oct 72 through 30 Sep 73).

b. The two major firms manufacturing rotary file equipment in the United States suitable for use in a CAS appear to be Acme Visible Records, Inc., and VISIrecord Systems. Acme Visible claims to be the largest firm.

(1) In this study, Acme Visible Records CAS installations were found in the following hospitals:

William Beaumont General Hospital (Installed 1969; see Appendix 70,) p. 70-2

Darnall Army Hospital (1972)

Kaiser-Permanente Medical Center, San Francisco

According to the company, Acme Visible CAS installations are also found at the following places:

Fort Lee, VA

Fort Belvoir, VA

Wright Patterson Air Force Base, Dayton, OH (see page 70-3)

Bedford Williamsburg Medical Center, Brooklyn, NY

University Hospital, Jacksonville, FL

Kaiser Foundation Hospital, Cleveland, OH

Kaiser Foundation Health Plan of Colorado, Lakewood, CO

Group Health Cooperative of Puget Sound, Seattle, WA

Wayne Miner Health Center, Kansas City, MO

According to BUMED, Acme Visible CAS installations have been made in the in the following Navy facilities:

Portsmouth (NH) Naval Hospital

Oakland (CA) Naval Hospital

Bremerton (WA) Naval Hospital

Admiral Joel T. Boone Clinic, Little Creek, VA

Naval Air Station, Corpus Christi, TX

(a) Acme Visible installations at WBGH, DAH, and KP utilize the CENTRAC (CENTralized Random ACCESS) principle (see pages 70-2 and 70-3). According to the company, the CENTRAC is "an entirely fresh approach to record-keeping, one in which all data is centrally located. All communication lines, internal and external, funnel into this information center.

All data is immediately available to everyone who needs it. There is closer contact between all persons who use this information. There is absolute flexibility. Above all--practically instantaneous availability of information provides continuous data flow...replaces hold-and-wait batch processing of incoming...requests."³² The firm claims that CENTRAC files speed the flow of paper work, provide better customer service, ease absence and peakload problems, reduce worker fatigue, reduce wasted time, and are extremely flexible (see page 70-4). Diagrams of CENTRAC layouts are on page 70-5. CENTRAC files are on GSA Supply Schedule GS-00S-14491, valid 1 Oct 72 through 30 Sep 73. As an example of price, an 87-inch diameter 2-tier book CENTRAC, motorized, with an 8-position desk assembly, would cost \$6865 in Zone 2 (San Antonio.)

(b) Although the GSA Supply Schedule indicated that 8-position CENTRACs are the largest available, it is known that Kaiser-Permanente CASs have 10-position installations, and the San Antonio representative of Acme Visible states that 18-position rotaries have been installed (in non-CAS applications, however). An 18-position rotary would measure about 20 ft. in diameter from end of desk to end of desk, weigh 2000 lb. empty, and cost about \$15,000. The smallest CAS installation known is at the Naval Air Station at Corpus Christi, where only two clerks are used on a rotary file.

(c) It is believed that motorization of the wheels are not needed until the diameter exceeds 60 inches. With motorized wheels a foot switch is useful for holding the wheel at one spot, and it keeps both hands free. With large wheels the inertia involved in turning and stopping the wheels can be fatiguing, as the CAS clerks at FGH have stated. The clerks at DAH, on the other hand, complain of some fatigue at having to pull 2 lb. 3 oz. books out of the rotary to make each appointment.

(d) CENTRACs are manufactured to accommodate either books or cards. Cards, of course, are smaller, lighter in weight, and save space. However, card CENTRACs are higher in cost (from 5% with two flat (not stepped) concentric rows, to 145% with six rows, five of which are stepped.)

(e) Acme Visible also has a "Veri-Visible" system, which displays the appointment schedule forms in "banks" of forms that rest in bins or tubs (see page 70-6). In several Naval hospitals these have been mounted in revolving tables, much like the CENTRAC, only the wheel is flat and the bins are recessed below the surface of the table. According to BUMED, this system has been installed in the following Naval facilities:

- Bremerton (WA) Naval Hospital (3 bins)
- Boone Clinic (VA) (3 bins)
- Portsmouth (NH) Naval Hospital (4 bins)
- Oakland (CA) Naval Hospital (4 bins)

(f) Acme Visible makes many different kinds of appointment registers for these systems; most of them appear to have been custom-designed for each installation. Appendix 70 contains samples of several forms; on page 70-8 is the form used at Wright Patterson AFB. The appointment forms are overlapped so that the edges are visible; on the margin are indicated the available appointment times. These forms can be in up to four parts, with either carbon-interleaved forms or NCR (No Carbon Required) carbonless copy paper. One copy usually goes to the Medical Records Section, one copy to the clinic, and one copy stays in the CAS. A fourth copy can go to the individual doctor, if desired.

(g) The address of the main office of Acme Visible Records, Inc., is:

Acme Visible Records, Inc.
Crozet, VA 22932 (telephone (703) 823-4351)

There are 73 branch offices across the country. They make systems analysts available to potential customers to design the best system for a given facility.

(2) The second major manufacturer in this field is VISIrecord Systems, a division of Barry Wright Corporation. Another major firm, the Wassell Corporation of Westport, CT, manufacturer of CAS installations at FGH and WRGH, recently merged with VISIrecord. VISIrecord equipment has been installed at the Bethesda Naval Hospital, Bethesda, MD, and at the Lahey Clinic in Boston. For details, see Appendices 11 through 15. In this system, as in the Acme Visible systems, the edges of the cards are marked to show appointment availability. The firm claims this system has forms with a visible time scale, showing open time at a glance; expedites receipt of medical records; eliminates wasted effort on cancellations; eliminates misfiling with its "card out" flag system; expands easily; is compact; and reduces costs due to increased efficiency. The address of the main office of VISIrecord Systems is:

VISIrecord Systems
Division of Barry Wright Corporation
Copiague, Long Island, NY 11726
(Telephone (516) 264-4900)

The firm also has "system specialists" in branch offices who will assist customers in designing their system. It is also on a GSA Supply Schedule, valid through 30 Sep 73: GS-00S-14660.

c. It should be stressed that local representatives of the company selected should be contacted for assistance in developing specific equipment requirements, layouts, number of clerk positions, and designing appointment forms. The proposal must provide for future expansion, including those existing clinics that are not on any type of CAS. One must be certain to itemize all the components and accessories for the

system, and consider the cost of supplies (forms, cards, books, etc.), installation cost, and building modification, if necessary, to accommodate an increased weight on the floor (equipment plus appointment files plus weight of clerks and chairs).

15. Telecommunications. An adequate telephone system for the CAS is essential, since all the appointments (except for mail requests) will presumably be done by telephone. Every installation visited had only one (or, at most, two) telephone numbers for patients to dial to request appointments. Specialized equipment is available to allow CAS clerks to receive calls in the order in which they were placed.

a. All installations visited had at least a "rotary ring-down system", in which incoming calls are cycled automatically from the lowest number to the highest on the rotary, in the sequence received. Calls are usually received on a 6-key telephone instrument, one key of which is for placing calls on "hold", or on a "Call Director", which can accommodate a large number of lines, and comes in various sizes (Appendix 71, pages 71-2, and 71-3A). The Western Electric Company manufactures a Call Director, with a cost to the Government of \$97-\$157 each. The GTE Automatic Electric Company (400 N. Wolf Road, Northlake IL 60164) offers a "Call Commander" for about \$222 each.

b. Four facilities visited had what is known as an Automatic Call Distribution System (ACDS): WBGH, BNH, KP, and LC. An ACDS holds incoming calls (up to one per active line) if necessary, then distributes them according to which CAS clerk has been free the longest. Thus, it balances the workload among the clerks. All the ACD systems seen had recorder-announcers with pre-recorded messages that, when all lines were busy, advised incoming calls that all lines were tied up, and that a clerk would be with them as soon as possible. Differences between rotary systems and ACD systems may be summarized as follows:

Table 6
Comparison of Rotary and ACD Systems

	<u>Typical Rotary Systems</u>	<u>ACDS</u>
Patients call one number	Yes	Yes
Routes calls to idle clerk automatically	Yes	Yes
Balances workload among clerks	No	Yes
Holds calls if all lines busy	No	Yes
Has recorded message if all lines busy	No	Yes
Incoming calls ring on all instruments	Yes	No (only one)
High initial capital outlay	No	Yes
Maintenance is complex	No	Yes

(1) As noted above an ACDS is costly; the GTE Automatic Electric Company ACDS at WBGH cost about \$8000 in 1969; a 25-station ACDS will cost about \$25,000 (per AE representative in Atlanta, GA, Mr. Benjamin F. Dixon, Government Sales Division). The Stromberg-Carlson Corporation (100 Carlson Rd, Rochester, NY 14603) has quoted a cost of \$26,461 for a 10-position ACDS (per letter to HQ, Fifth US Army, ATTN: ALACE-T (Mr. M. Solis), 28 Nov 72). Automatic Electric has just installed a 14-trunk ACDS at FGH at a cost of \$18,300. I understand The Western Electric Company makes an ACDS, but I have no cost data on it and know of no CAS installation that has this system. It should be noted that delivery time for Automatic Electric's ACDS is usually on the order of 18 months (FGH's experience), and Western Electric's is reported to be of the same magnitude, or greater. On the other hand, rotary ring-down systems are routinely available at every central telephone office, and are reportedly much simpler to maintain than ACD systems.

(2) The ACD systems at LC and KP had telephone traffic monitoring meters installed in the CAS office to enable the CAS supervisor to monitor the number of incoming calls, the number of calls that were being lost due to all lines being busy, and similar data. The ACD being installed at FGH has meters for monitoring on a daily or hourly basis:

- (a) Total calls attempted.
- (b) Total calls serviced.
- (c) Total calls placed into the "stacker" (on hold).
- (d) Number of times all trunks are busy (ATB time).

Similarly, Stromberg-Carlson can provide traffic meters and registers to record the following:

- (a) The number of calls handled at each position.
- (b) The number of calls abandoned before being answered.
- (c) The number of calls handled by all clerks.
- (d) The number of calls per trunk or group of trunks.
- (e) The number of times a trunk group is busy
- (f) The number of times all trunks are busy.
- (g) The number of calls waiting to be answered.

(3) These meters can provide valuable information (see Appendix 1 to see how KP recorded this information). LC also has these meters, while WBGH and BNH do not (except BNH can see how many calls are waiting by the number of signal lights glowing on the control console). As noted previously, by requesting such information as a special study from Fort Bliss, it was discovered that nearly a third of the incoming calls were being lost. FGH was installing their ACDS as this report was being completed: On the first day these meters were functioning (15 Jan 73), it was found that 827 calls were handled by ACDS; of these, 566 encountered the "all lines are busy" recording, and there were 410 times calls were received when even the "stacker" was full (ATB time). Thus, the CAS supervisor must arrange for more clerks, or more trunks. Some guidance in telephone traffic management can be found in the U.S. Army Strategic Communications Command Pamphlet (CCP) 105-7, "Telephone Traffic Management", 17 July 1972. It is available from Headquarters, U.S. Army Strategic Communication Command, ATTN: SCC-POA-OT, Fort Huachuca, AZ 85613. Of course, local communications and electronics specialists should be of assistance.

(4) It should be noted that the CAS supervisor at KP reported that they had had frequent and severe maintenance problems with their ACDS, and were thinking of getting a new one.

c. The GTE Automatic Electric Company is developing a modified rotary ring-down system with a recording and holding capability. A prototype has been installed at Maxwell Air Force Base, Montgomery, AL, and is planned for the Rader Army Health Clinic, Ft. Myer, VA. It is called the Call Intercept Storage and Transfer System. For details, see Appendix 71. Bell Telephone Laboratories has also described a new and smaller, more economical ACD system based on the switching circuits in key telephones. It is also shown in Appendix 71.

d. Several installations have night-answering recording devices, with or without being part of an "all lines are busy" recorder. Such a device is used during the lunch hour (if there is one), and after duty hours at night, on weekends and on holidays. Separate non-ACDS instruments that may be used are:

(1) The Electronic Secretary Model AO-3 manufactured by GTE Automatic Electric Company (at DAH).

(2) The New Electronic Secretary, Model 985B, by the GTE Automatic Electric Company (see Appendix 71, page 71-4), cost about \$375. It will record up to 30 minutes of callers' messages. It could be used to record cancellations patients want to make; they can be transcribed periodically as time permits (this would require a separate line for patients to use who wish to cancel an appointment).

e. Adequate communications between the CAS and the supported clinics is essential. This will require at least one separate line not on the rotary or ACDS, and it must be available on each CAS clerk's instrument. This may be one of the regular horizontal lines with a device to transfer a call to a clinic if necessary, or it can be a separate, direct line (more expensive).

f. The CAS supervisor should be able to communicate by telephone with each CAS clerk, and with the clinics. Thus, the supervisor must have a supervisor's console that has enough positions to permit this. This is essential for consulting with the clerks on trouble calls. The manufacturers mentioned above provide supervisors' consoles or "turrets" with the necessary features for monitoring and supervising the system, such as ACD position-status lamps, alarm lamps for malfunctions, and the various traffic registers referred to above.

g. Mr. Dixon, of the Automatic Electric Company, recommends the provision of one WATS (Wide Area Telephone Service) line--a toll-free number patients living outside the range of local calls can use to make appointments. This would be especially useful for retired persons living at some distance from the hospital. As an example of cost, for coverage of the entire state of Georgia, the cost for renting such a line from the Bell Telephone Company would be \$250 per month for the first 15 hours, then \$15 for every additional hour.

h. It is possible to have incoming calls transferred from a clinic to the CAS when the clinic is not open--a sort of telephone answering service for non-appointment calls directed to a clinic. This requires a switching key, which costs \$15-\$20. This necessitates a person in the clinic calling the CAS and telling them that the switch has been thrown every time this is done.

i. A pleasing innovation that is used by some airline reservation offices, and has just been installed at FGH, is the "music-on-hold" feature. This system feeds music into the receiver while a patient is waiting for his call to be answered by a clerk, after the "all lines are busy" recording has played, and after he has been placed on hold. At FGH the existing piped-in hospital music system has been wired into the ACDS with little difficulty. Initial reaction from patients is overwhelmingly favorable.

j. All of the CAS installations visited with lighted indicator buttons on the clerks' instruments saw no need for audible signals for incoming calls. The CAS staff usually had tried to lower the volume of these signals to the lowest possible level.

k. At most CAS installations the clerks wear headsets in order to have both hands free. All the headsets seen were manufactured by

Pacific Plantronics, Inc., 385 Reed Street, Santa Clara, CA 95050. The Model MS 50 is one now available (page 71-5A), and costs about \$60. It was originally developed for use in the NASA space programs. It is lightweight (less than 2 oz.) and has soft individually fitted eartips and a thin, "distortion-free" acoustic tube instead of the conventional microphone. It can be attached to spectacle frames. There is also a new StarSet model that fits around the ear (page 71-5B) and weighs less than an ounce; it may also be attached to glasses. Cost of the StarSet is about \$72.

1. Through the kindness of MAJ David J. Kitchin III, MSC, new-hospital project officer at Ft. Gordon, GA, for the new Dwight David Eisenhower General Hospital, an engineering survey of communications supporting facilities in 16 US Air Force hospitals was made available.³³ The survey was done in the Southern Communications Area 29 April through 15 July 1971, and the report makes a number of recommendations about the communications aspect of outpatient appointment systems. I wish to call attention to the following recommendations:

(1) Have a separately listed number for cancellations. (If patients encounter busy signals on the regular CAS lines, they may not persevere just to make a cancellation. The goal should be to convert "no-shows" to cancellations in order to minimize doctor idle time due to this cause.)

(2) Establish a separate telephone number to be utilized by patients making long distance calls to the hospital.

(3) At 10 of the 16 hospitals, "service could be materially improved" by the addition of ACD equipment.

(4) The button-lights on lines on hold should "wink" differently from lines in use.

(5) In-house telephones designated for appointment-making only should be provided (50% of the hospitals surveyed provided this service, and 16% of all appointment calls were on these phones).

(6) The existing telephone system should also be used as an intercom ("The bulk of the intercommunications requirements can be satisfied by one or two digit dial intercom arrangements as a part of existing telephone key systems"). This will preclude any need for separate maintenance contracts for intercom equipment.

(7) Improve telephone directory listings of the CAS: have more detail and cross-referencing in post directories, and have the post hospital appointment number (and the emergency and information numbers)

listed in both the white and yellow pages of the community telephone directory (many of our patients--including all the retired personnel and their dependents--live off post).

(8) Ask the local telephone company to provide assistance by their service representatives and PBX trainers; this is usually willingly provided ("...the efficiency of the appointment desk operations is reflected into the commercial offices due to the volume and point of origin of those calls"³³).

m. Attention should be directed to the Bethesda Naval Hospital, where five automatic card-dialing telephones are located in the main outpatient waiting area. The phones are desk models placed in partially-enclosed booths; one is lower than the other four, for the use of wheelchair patients. Blank appointment slips are kept on the shelves in the booths beside the phones. To make a call to the CAS, one simply pushes a perforated plastic card down into a slot on the instrument, and the CAS number is dialed as the card comes back up. Cost of each instrument: \$28 plus \$9.30 a month.

n. When a plan for CAS telecommunications is being developed, one must consider the number of lines required and then lease cost, if applicable, the capital and monthly lease costs (if any) of all the specialized equipment, number and location of in-house phones and the monthly lease cost (if applicable), and service connecting charges. Of course, local communications and electronics personnel should be consulted. Normally, the post C & E will fund for telephone system charges and expansion. However, the lead time could be up to three years. Transfer of hospital funds to C & E could be considered to expedite this.

o. Telephone answering techniques.

(1) Patients or their relatives making appointments by telephone obtain their first impression of the hospital (or clinic) from the appointment clerk. By his or her voice alone the clerk can produce a lasting image of the hospital in the caller's mind: this image can be either pleasant or unpleasant, positive or negative. A positive image can do much to facilitate a good doctor-patient relationship and will foster a willingness of the patient to actively cooperate in the health care transaction. Therefore, CAS clerks should seek to project the proper image. An effective telephone personality will help the hospital make friends and create good will. The person calling cannot see the clerk's facial expression--he can only judge by how the clerk sounds. Everything depends on the proper use of the voice.

(2) An example of some guidelines for proper telephone courtesy for CAS clerks is provided in Appendix 72 from WBGH.

(3) The commercial telephone companies realize the importance of a good telephone personality for its operators, and for its customers in the conduct of their businesses. The Bell Telephone System has developed some effective training aids on this subject which should be usually available from local Bell System offices. These aids would be valuable both for newly appointed CAS clerks, as well as for more experienced clerks as a refresher--or to correct ingrained bad habits.

(a) The following booklets contain useful guidance:

"Patient Relations by Telephone"
"How to Make Friends by Telephone"
"Telephone/Personality Tips"
"Phone Tone"
"You and Your Telephone"
"PBX Hints"

(b) Some examples of practical guidance from the Bell System are:

"What are the qualities of a good voice? Alertness... Expressiveness...Naturalness...Pleasantness...Distinctness..."

"There is always time for courtesy:

"1. Greet the caller pleasantly by being enthusiastic and yet sincere; you'll find the patient will like you..."

"2. Use the patient's name--there is no sweeter music to a person than the sound of his own name.

"3. Try to visualize the person--speak to the person at the other end of the line, not AT the telephone.

"4. Be attentive--your caller will appreciate your listening politely and attentively. If you sound vague, or disinterested, your patient will not be favorably impressed.

"5. Take time to be helpful--it's better to spend seconds KEEPING a patient happy than months REGAINING his good will.

"6. Ask questions tactfully--questions that are routine to you may sound abrupt, or unnecessary, to your patient, unless they are presented tactfully.

"7. Say 'Thank you' and 'You're Welcome'--the use of such phrases is one way to smile over the telephone."

"On making appointments: Don't force your patient to make a choice between two or more times. Say, 'The doctor will be able to see you at three on Thursday, Mrs. Smith'. If this is not a convenient time for the patient, they try 'The doctor has a 4:30 opening; would that be better?'"

"The surest way to get a smile in your voice is to have one on your face."

"When it's necessary to leave the line during a call, explain to the caller and ask his permission:

'Would you hold on please while I check that information?'

"Wait for a response. 'Thank you for waiting' is appreciated when you return to the line.

"Return to the line every 30 or 40 seconds to let the caller know what progress has been made."

"Watch out for these 'clinkers': 'You have to' or 'You must'.

"WRONG: 'You'll have to come in Monday if you want that checked.'"

"RIGHT: 'If you'll come in Monday morning, we'll be happy to check that for you'"

"If you are calling a number, give the person you are calling at least 10 rings to reach his telephone."

"Avoid slang or technical expressions; slang is not business-like."

"AVOID:	SAY:
*O.K.	*Yes
*Yeah	*Certainly
*Uh-huh	*Of course
*Bye, bye	*Goodbye"

"Technical expressions:

- *Confuse the caller
- *Make him feel inferior
- *Interrupt his trend of thought."

"Don't use the telephone while eating or chewing gum. It's bad manners".

(c) Experienced telephone operators say that a more cheerful, helpful personality is projected if one tries to end each sentence or group of sentences on a rising, upbeat note.

(d) The Bell System also has some helpful motion picture films that should be considered in a CAS training program. The useful ones are believed to be the following (available from local or regional offices of the Bell System). None of them, however, deal with medical facilities. The following films are believed to be most suitable for CAS training:

The Extra Step, color, 33 minutes, 1967, MF 61-5269

This film was produced for the U.S. Civil Service Commission, and is addressed to people in the Government who serve the public by telephone. In one sequence it deals with techniques of handling old, ill, emotionally disturbed, and inarticulate people who are unfamiliar with Government procedures. Ways to prevent "angry customers" are suggested. At the conclusion the narrator states: "Efforts to be helpful--that extra step--will pay dividends in better Government-community relations."

All Kinds of People, color, 28 minutes, 1972.

In this film Bell System employees are interviewed about their attitudes toward the public and other employees (all positive, of course), and how "it's people who make the system go". The system is "man and machine working together". In a job using the telephone "You'll get to hear people--straighten people out". There are shown examples of good telephone voice technique, of handling hostile customers, and filmed sequences showing a circular rotary file, call directors, and headsets (not Pacific Plantronics, however).

Business-oriented films that are not so generally suitable for CAS clerks, although they show good sequences in the proper use of the voice, are:

I Rather Like You, Mr. Bell, color, 27 minutes

This film features comedian Bob Newhart.

How to Lose Your Best Customer Without Really Trying, color, 28 minutes.

The Voice of Your Business, color, 13 minutes

Cartoon: "Does the voice of your business create the kind of image you want?"

(4) An excellent film made by the Department of the Navy shows how to manage the behavior of difficult patients, by treating all patients in an outpatient department with tact and concern; the principles it embodies should be of value to CAS clerks:

You in OPD, MF8-5539, color, 23 minutes, 1970

(5) Local commercial telephone company service representatives and PBX trainers are usually willing to assist in training CAS clerks and should be contacted.

Section V - Summary of Operational Data

16. Summary of operational data. Selected operational data from both phases of the study, previously presented, are summarized in Table 7. It must be understood that some of the data collected in Phase I were not verified by the project officer due to the short time he spent in each hospital and may simply be estimates by operating personnel. (Note that the institutions with on-line computer support (PBBH, LC, CHMC, DGH) have been excluded.) BNH is seen to be superior to the other hospitals in a number of areas, particularly in the important ones of percent of clinics and visits supported by the CAS (assuming that if the CAS were not good more clinics would have requested exclusion), in the number of doctors served per clerk (highest number), and in the length of the average appointment call, since one can assume that the most efficient system should enable the CAS clerk to complete the appointment-making transaction in the shortest possible time. In other areas no clear-cut pattern of superiority is apparent.

Table 7

Summary of Selected Operational Data for
Ten Central Appointment Systems

(Underlined items are those most favorable of a given characteristic in each phase, where applicable; an asterisk (*) indicates most favorable overall)
(minus (-) = Data not available)

CHARACTERISTICS	H A S E I										P H A S E II			
	WRGH	MAH (Leav.)	WAH	IAH	BNH	KP	WBGH	FGH	MAH	DAH				
1. Percent of outpatient visits appointed by CAS	20	20	71	45	93*	-	27	14	38	17				
2. Percent of clinics served by CAS	29	54	70	81	76*	70	65	44	35	75				
3. Length of average call to CAS (in minutes)	-	-	-	-	-	-	1.9	1.7*	1.8	2.0				
4. Length of average appt. call (in minutes)	-	-	3	2	1.5*	3	2.1	2.2	2.2	2.4				
5. Frequency of information calls (percent)	-	-	-	-	-	-	14	38	32	36				
6. Number of total phone lines available	11	5	12	5	18	28	11	15	10	6				
7. Rotary or ACDS	Rotary	Rotary	Rotary(2)	Neither	ACDS	ACDS	ACDS	Rotary → ACDS	Rotary	Rotary(2)				
8. Number of lines on rotary or ACDS	4	4	12 (6+6)	0	15	28	8	8	6	(3+3)				
9. Number of in-house patient phones	3 (direct)	0	-	-	5	11	1 (direct)	5 (direct)	3	5				
10. Number of administrative (unlisted) lines	4	1	0	1	3	-	1	2	4	0				
11. Hours of operation	0745- 1630, M-F	0730- 1130, 1230- 1630, M-F	0730- 1625, M-F	0800- 1700, M-F, 0800- 1200Sat	0730- 1630, M-F	0830- 1800, M-F		0730- 1130, 1230- 1630 M-F	0800- 1615, M-F	0730- 1630, M-F				

CHARACTERISTICS	H O S P I T A L S										
	P H A S E I					P H A S E II					
	WRGH	MAH (Leav.)	WAH	IAH	BNH	KP	WBGH	FGH	MAH	DAH	
12. Personnel assigned to CAS	8	5	12	6	7	32	12	9	7	6	
13. Number of CAS clerks (full-time equivalent, F.T.E.)	5	5	-	-	7	7	5	5 1/2	6	5	
14. Number of calls handled per CAS clerk per day	51	30	150	-	173-214	148	204	125	242*	114	
15. Number of appointment calls per F.T.E. clerk per day	-	-	-	-	-	-	161*	70	117	62	
16. Number of doctors served per clerk	-	4.6	6	12+	24.3*	13.1	16+	19+	-	10	
17. Latest time appt. can be made prior to appt. day	2 days	same* day	1100 hrs day before	1 day	1 day	same day	2 days	2 days	1200 hrs day before	1500 hrs day before	
18. Patient cancellation rate (percent of appts. made)	-	-	-	-	-	-	6.4	4.9	4.6	8.8	
19. Patient no-show rate (percent of appts. made)	-	-	-	-	10(est.)	-	4.5	1.8*	15.1	9.5	

Section VI - Discussion

17. Discussion.

a. Comments on findings:

(1) It is clear that those central appointment systems that have some computer support and use punched cards have an advantage over those systems that use various multi-leaved appointment forms, which have to be separated and distributed to the medical record room, x-ray room, and clinics, or else the single appointment form in a loose-leaf binder that must be photocopied and distributed in the same fashion. The FGH system of having the Data Processing Branch automatically produce duplicate punched cards for direct use in medical record and x-ray file retrieval seems particularly attractive. The computer also prints out appointment lists for the clinics, so the clinic receptionists can check off patients when they arrive and use the lists to prepare statistics on late cancellation and no-show rates, and so the doctors can see who they can expect that day (or, if prepared a day ahead, the next day, and can therefore read up on the patient if they wish). It is noteworthy that the hospital staff liked the FGH system best overall, and so did the patients. It is also noteworthy that both doctors and patients observed that a computer-supported hospital (WBGH) was able to have their medical records available more often than was the case at the other hospitals. More x-ray files were also available at WBGH, which had a formal system developed to have the CAS request the x-ray files for the Orthopedic Clinic.

(2) The use of various styles of rotary file equipment—concentric tiers, stacked tiers, rotating columns—seemed to make no observable difference in speed of appointment making except in the case of BNH, which had the fastest appointment making, according to the CAS supervisor there. Unfortunately, it was not possible for me to verify their reported time of 1.5 minute. In Phase II, WBGH had the fastest time, but the others were very close. It should be pointed out here that time per appointment call is not the same thing as time per appointment transaction, since it is not unusual for a patient to make more than one appointment during the course of a single call. For example, on the patient questionnaires, about a quarter of the patients reported they had had occasion to make more than one appointment for a single day.

(3) Regardless of the efficiency of the CAS, it was startling to see the low level of utilization of the CAS by clinics. The range overall was 29 to 97 percent; in the Phase II Army hospitals the range of clinics using the CAS was 35 to 75. With respect to outpatient

visits, in Phase II CAS utilization ranged from only 14 to 38 percent. The highest utilization was not in the hospital with the speediest appointment-making process. On the contrary: the hospital with the most satisfied patients and staff (FGH) had the lowest percent of out-patient visits appointed. There must be other factors at work that cause clinics and patients to decline to participate. These factors will be discussed below.

(4) One problem that was commonly encountered was the complaint that patients often had an extraordinarily difficult time contacting the CAS by telephone. Busy signals were encountered very frequently. As noted in the patient questionnaires, from 19 to 53 percent of the patients reported usually getting a busy signal when calling the CAS, and from 38 to 59 percent got some result other than a prompt answer by a clerk. This is a poor showing for systems that do all their business by telephone. A six percent equipment busy rate is the maximum desired according to standard telephone engineering practices (according to communications engineers at Headquarters, Fifth US Army). The best performance was recorded by WBGH, which was the only hospital in Phase II with an Automatic Call Distribution System. WBGH also had the largest number of appointment calls per clerk per day of any of the four Phase II hospitals. It is logical to assume the ACDS helped. However, it should be realized that ACD systems are expensive. As far as I can determine they come in multiples of 10 positions, from two to 10 of which can be wired for service. Clearly, however, the smaller the number of active positions, the less cost-effective the ACDS is. Conversely, it becomes more cost-effective the closer one approaches 10 positions in operation. The experimental Automatic Electric Call Intercept Storage and Transfer System, which is much less costly than ACD systems, may provide most of the desirable features of an ACDS, and should be investigated by those installations without an existing ACDS. Bell Laboratories has also recently developed a small call distribution system using key telephones that may be preferable to a large, expensive full-fledged ACDS.

(5) All four Phase II hospitals recorded a significant number of calls for information (from 14 to 38 percent of all calls). This is an existing fact that must be faced and provided for. There is much to be said for having one telephone number for patients to call for information about the hospital, its policies, clinic hours and location, and so on. The study by the Comptroller of the Army recommended that the CAS "should be the focal point of all patient inquiries concerning the routine operation of the hospital."³ This is also consistent with paragraph 7b(2), AR 1-17, "Communications with and Service to the Public," which states that one suggested action should be to "provide central reception and one-stop service to the optimum feasible extent".³⁴

(6) It was apparent both from the staff questionnaires and from personal observation that adequate communication between CAS clerks

and clinics and doctors is essential. There must be perfect understanding by the CAS clerks as to clinic schedules and procedures, and as problems arise with individual patients, the clerks must be able to put patients on hold and call the clinic or doctor for advice. For example, a patient may report that a doctor told him to return to him in a week, but the doctor's appointments for that day are already filled. If there is not a standing order from the doctor or clinic to overbook in such cases, the CAS should be able to contact the doctor. If there are no lines available for this (as at DAH), such a procedure is impossible. Orthopedic surgeons, especially, demand that patients return for cast checks, for example, exactly as requested. If the CAS does not permit this, the doctors will make their own follow-up appointments in the clinic or on their own calendar pads.

(7) The provision of in-house telephones reserved exclusively for patient use in calling the CAS was found to be quite desirable. Their loss when WBGH moved into the new hospital was keenly felt. Some hospitals use direct lines that ring in separately, but it is not clear that patients calling from within the hospital should take priority over those calling from outside the hospital. Besides, the direct-line phones take additional special lines, and are reported to be more expensive than using regular (but not pay) telephones. Providing ledges, pads of blank appointment slips, and a pen on a chain to aid patients in writing down appointment times would appear to be wise, and may serve to decrease no-shows caused by patients forgetting their appointment. Card-dialing telephones appear to be useful in relieving the patient of the tedium of dialing the same number repeatedly in the event he encounters a lot of busy signals.

(8) The availability of telephone traffic monitoring lamps and meters or registers appeared to be of assistance to management. If it is not routinely available in the CAS office special studies requested from the telephone central office can provide revealing data.

(9) BNH's provision of a separate number for patients to call for cancellations appears to be a good idea. This was also recommended by the Air Force communications study. An "electronic secretary" may prove additionally useful here. If an electronic secretary were used, another line would have to be provided for long-distance calls, with priority given to answering that line before others.

(10) Several CAS installations without computer support require the appointment to be recorded on two forms: one is the clinic or doctor schedule, and the other is an appointment slip that goes to Medical Records. The combining of these two forms, as is done at BNH, seems desirable. If there is only one form that serves as both schedule and appointment list--as at MAH (Benning) and MAH (Leav)--the use of a

multi-leaved form--as at DAH--eliminates the need to photocopy the appointment list.

(11) It is not feasible to recommend one standard appointment form at this time. This study has not demonstrated the definite superiority of one manufacturer's equipment over another (and neither did the Navy) and both Acme Visible Records, Inc., and VISIrecord Systems are on the GSA Supply Schedule. Both of these firms provide the appointment slips to the customers specifications. Some hospital commanders may want certain items of information for management purposes that another will not. Furthermore, if the appointment slip or card is to be used to prepare the Outpatient (MED 80) Report, more information will be required than for a hospital that has another method of generating the MED 80 report. Moreover, it is understood that the MED 80 report is in the process of revision. For these reasons, delineation of a recommended standard form does not appear possible. Nevertheless, it is believed that certain minimum information should appear on the appointment form:

(a) The doctor's schedule, with a mechanism for blocking out unavailable time.

(b) The patient's name and grade (or Mrs. or Miss to be used in addressing patient).

(c) The patient's terminal digit file number.

(d) The patient's telephone number (so he can be called if the doctor becomes unavailable).

(e) A notation as to the year of the last visit, so medical records personnel can readily ascertain whether or not a record has been removed from the active file.

(f) A notation as to whether the x-ray film file is to be made available (as for Orthopedic Clinic patients).

(g) The length of time of the appointment, if not pre-printed.

(h) The date and time of the appointment.

(i) The name of the clinic.

(j) For punched-card systems, whether the patient was an appointment or walk-in patient ("walk-in" would be indicated by clinic personnel who would fill out one of these cards on all walk-ins and forward them for key-punching). This would show the ratio of the appointments to walk-ins.

(k) Also for punched-card systems, a place to indicate if a patient was a late cancellation (after the books are closed) or a no-show, for later evaluation. For non-punched card systems, this could be indicated on the patient appointment lists.

(12) Clinics' and doctors' SOPs were kept in numerous ways. The best way appeared to be in a Kardex type file, such as Acme Visible Records Multi-Card Bulletin Holders, used by telephone operators (see Section 12 of the Acme Visible Catalog, GSA Schedule GS-00S-14491).

(13) There was nearly unanimous agreement among CAS personnel that appointments should be made only by telephone, not in person. If appointments are also made in person, there are thus two queues--one on the telephone (there will always be some: at IAH, they ran 20%), and one in person. The CAS clerks are always uncertain as to which queue has priority. The phones ringing while patients demand service is quite noisy, distracting, and confusing. Also, in person one is more liable to get involved in unseemly arguments with demanding--or pleading--patients, and one may give in and violate SOPs in order to placate the patient. All-in-all, a "closed door policy" seems best.

(14) It is not clear how many clinics can be handled by CAS installations. All rotary files seen had some capacity to expand; however, the limitation may be telephone lines, not the rotary file. The number of doctors served may be a limiting factor, but the hospital serving the largest number of doctors--BNH, with 170--did not regard itself as being saturated as far as that was concerned. The four largest systems are presented below, relating number of desks to the number of clinics and number of doctors served:

Table 8
Selected Characteristics of the Four Largest CAS Installations

	<u>BNH</u>	<u>FGH</u>	<u>WBGH</u>	<u>KP</u>
Number of desks in CAS	7	7	10	10
Number of clinics in CAS	38	35	57	7 (major)
Number of doctors served	170	105	82	92

(a) It should be realized that different hospitals classify their clinics differently. At KP the service was mainly to individual doctors rather than to clearly defined clinics. As indicated above, a 10-position CAS should be able to serve at least 57 clinics and from 82 to 170 doctors. This will vary, of course, depending on whether the doctors were supported full-time or only part-time. This could not be determined within the time limits of the study, but the percent of clinic visits appointed may give some idea of this factor.

(b) Another factor to consider is that of whether large CAS rotary files will result in undue competition between clerks for the same file if there are too many clerks around the wheel. Even at the 10-position wheel I detected none of this; it seems that calls arrive in so random a fashion that waits because a book or card deck is unavailable is rare. With card decks, moreover, clerks only stop the wheel for a moment, remove one card, then release the wheel. If the card pulled is not satisfactory for the patient, the clerk retrieves that section of the wheel, but by that time a number of seconds have elapsed, in which some one else may have accessed, then released, that section. If books are used, the book involved is removed, releasing the wheel almost immediately for other clerks who may wish to access books in that portion of the wheel. With multiple tiers the problem of simultaneous access to one portion of a tier by several clerks is reduced further. Whether this problem becomes important with larger wheels is not known, but I understand other Kaiser-Permanente medical centers use 12-position wheels, presumably with no problem on this score, either.

(15) Operating hours for CAS vary--most keep strictly duty hours, sometimes with a shut-down for lunch. Those who close for lunch feel it is better to have a full staff available when they are open, rather than only a partial staff present for several hours every day. However, eight of the ten non-computerized hospitals studied stay open during the noon hour. Patients have commented that they would like to make appointments during the noon hour, often after they have finished with a morning clinic and need to make a follow-up appointment. At IAH the CAS is open on Saturday mornings, but it handles walk-up patients. Early evening service is provided only by KP, which stays open until 1800. Of the computerized civilian hospitals, one stays open until 1800 or 1900 (depending on day of the week), one is open until 2100, one is open 21 hours a day, and the fourth (DGH) is open 24 hours a day, seven days a week. Patients say that they would like longer CAS office hours.

(16) The number of personnel assigned to a CAS will vary depending upon the size of the operation.

(a) An assistant to the supervisor can prepare advance clinic and doctor schedule forms, punched card code sheets (if used), act as liaison between the CAS and the doctors for specific questions, and handle mail appointments, leaving the supervisor free to supervise, and the clerks to make appointments. In most Army installations it seemed to be the appointment clerk who had to pull the cards or appointment forms from the rotary file--often just when the phones were the busiest. A messenger at WBGH was very useful. The supervisor should not have to be a messenger: she should supervise and handle trouble calls.

(b) The question of proper grades is a vexing one. AGS-4 was the commonest grade for the appointment clerks. At the largest

hospitals the supervisor was a GS-6. Civilian hospitals were about the same, although at KP the supervisor was between a GS-7 and GS-8 in pay grade. Civilian personnel position and pay classifiers should be made to realize that the job of an appointment clerk is a vitally important one for the efficient and effective functioning of the hospital's clinic function. These individuals should be regarded as more than just clerks or operators, but as persons trained by physicians to skillfully guide physically and emotionally ill patients into the health care delivery system, thus minimizing patient and doctor waiting time and getting the patient where he needs to go without error. This is a demanding task, calling for intelligence, tact, knowledge of medical concepts (including a basic knowledge of anatomy and medical terminology) and hospital policies, and an intimate understanding of what may be 80 or more specialty and subspecialty clinics. She should grasp details quickly. In addition, the person should have a pleasant telephone voice, a good grasp of human psychology, be emotionally stable, and not be readily upset by ill, worried, demanding, often hostile patients who can't get appointments when they want them. Such a paragon should be worth at least a GS-5 pay grade, in this observer's opinion.

(17) Most CASs cannot make appointments beyond two months in advance: the equipment will not accommodate any more, and the CAS clerks are convinced patients can't remember any farther ahead than that. However, several installations have developed suspense or holding files for just such appointments, and feel it is quite appropriate to notify these patients when the books are open and an appointment is available. This works at PBBH and KP, and to a limited extent at IAH.

(18) Short-lead-time appointments are a constant source of difficulty. Acute illnesses demand prompt attention, but if appointments are all booked up, what is to be done? Patients walk-in unannounced, of course. Some possible solutions:

(a) Close the appointment books at the very last moment. This may mean Medical Record Section clerks pulling records the night before, as at DAH.

(b) Make it possible to call in for an appointment one or two hours in advance--as at the Pediatric Clinic at WBGH. At least patients with communicable diseases can then wait at home until shortly before the appointment time, instead of in a clinic waiting room. This means holding appointment times open until the day of appointment for these patients.

(c) Allowing double-booking or purposeful over-appointing if experience shows that these patients will be worked in anyway.

(19) When walk-in patients arrive at an appointment clinic, the natural inclination is to penalize these patients in some way. Most responsible people agree that they should not be seen before an appointed patient at a given hour unless there is a true medical emergency. Some clinics make them wait until the end of the clinic session before they see them; other clinics work them in between patients with appointments. Other clinics purposely leave every third or so appointment interval unfilled to accommodate them. Still others plan on no-shows making enough vacancies. And some simply provide one or more doctors to see nothing but walk-ins, leaving their colleagues to see appointed patients only. Which system is best may depend on the clinic and clientele being considered. Surely improving the telephone system to facilitate access by patients to the CAS would enable patients to make more appointments. I found no clinic that would turn walk-in patients away, but perhaps this would be justified (sending patients to the Emergency Clinic or the Urgent or General Medical Clinic), if thereby the patient population would begin to grasp that certain clinics were truly "by appointment only". Doctor-referred patients with urgent consultations would still be permitted in specialty clinics, but perhaps they could enter by a separate door. Whatever system is used, it would seem to be up to the clinic chief to develop his own schedule so that it would accommodate the expected mix of appointment and walk-in patients.

(20) Many patients (18 percent overall) expressed their frustration with being unable to get an appointment when they wanted it. If more doctors can't be assigned, one way to reduce an excessive appointment backlog is to extend clinic hours. Appendix 51 shows hours of clinic work per week--both expected and actual--in a number of clinics. It can be seen that some clinics in Army hospitals equal or even exceed DoD standards as well as commonly accepted standards described by Rosenfeld.¹² Some, however, fall far short of these standards, assuming that all the clinic hours were fairly reported by the four hospitals. The standards in Appendix 51 appear to be not far off the mark as far as a number of Army clinics are concerned. The information in Appendix 51 may be useful in deciding whether a given clinic is open long enough.

(21) It was thought that at those hospitals where the procedure allowing doctors to change their schedules (and possibly resulting in cancellation of appointments already made) was most informal, that this would be reflected in doctors being most favorably inclined to the CAS, believing it to be "flexible". This was not borne out by the results to question 10 on the staff questionnaire. WBGH seemed to be the only hospital with a formal procedure and a written form for this, but WBGH was not the lowest on question 10, nor on the overall rating. It was said that the formal procedure was not being followed in all cases. While doubtless satisfying to the doctors, ease in changing the doctors' schedules and in cancelling patients' appointments is presumably frustrating for management and for patients.

(22) Doctors have expressed disbelief that CAS clerks could ever grasp the details of the operation of a large number of clinics--certainly not as well as individual clinic secretaries could. An attempt to measure this was question 14 on the staff questionnaire, in which doctors were asked about the incidence of erroneous appointments to their clinics attributable to errors by CAS clerks. Over three-quarters of the respondents said this occurred rarely or never. The errors that did occur were of the order of a patient being appointed to Ophthalmology rather than Optometry, or to Neurology rather than Urology. Many of these errors must be due to patient ignorance, poor speech, or, in some cases, actual deception. Errors attributable to the CAS could be largely eliminated by more detailed training by the clinic staffs. However, none of the physicians in any of the hospitals could ever recall any disaster or tragedy resulting from misinformation or a wrong appointment given to a patient by the CAS.

(23) Various reports were generated by different CASs. The only report used locally appeared to be the appointment backlog report: several doctors related that they used this report to tell patients when they could expect an appointment in their own or another clinic. Wider use of this report might lead to fewer unhappy patients, and a decreased need for double-appointing due to a doctor's ignorance of appointment availability when he is deciding on the follow-up interval. Managers reportedly also use this report to reallocate resources. Workload (telephone calls) reporting is also done by several CASs, to the management or manpower offices (not to command).

(24) A number of patients have requested permission to have more self-referrals to specialty clinics, especially for already known problems, without going through a general clinic. A number of General Outpatient Clinic doctors also express irritation at having to see a patient and write up a consult before the patient can get an appointment to a specialty clinic. WBGH was the most liberal in this respect, and still three-fourths of the staff queried found erroneous appointments rarely or never (there was no significant difference between any of the four hospitals on this question). Clinics found to permit self-referrals are listed in (Table 2, page 43), and may be used for information by those hospitals contemplating extending such permission. It is believed that more extensive training of CAS clerks concerning what kind of problem could be appointed to a specialty clinic and what should first be seen by a doctor in a general clinic would allow adequate control over a liberal policy, and would be appreciated by patients. Doctors in a Family Practice Clinic, if it exists, and the General Outpatient Clinic should be consulted on this.

(25) Nearly three-quarters (73.6%) of all patients surveyed thought the waiting time in clinics was reasonable. It is not clear

whether this was due to an efficient CAS, or to other factors, nor, indeed, whether this is the best that could be obtained, since other hospitals without CASs were not studied. From 8.3% to 19.7% of patients in the four hospitals in which patients were queried felt that they had to wait too long; I suspect this can be improved, especially if the large number of walk-ins is reduced by converting as many as possible into appointment patients. The presence of large numbers of walk-in patients in a clinic will no doubt result in some delay--even if inadvertent--in doctors seeing appointment patients.

(26) The quarters in which central appointment systems were accommodated ranged in size from 15 ft. x 12 ft. (MAH (Leav.)) to 53 ft. x 25 ft. (WBGH). The most ideal arrangement seemed to be at WBGH, where there was enough room for two latrines and a partitioned-off lounge area. There should also be enough room for the supervisor to move completely around the wheel. Even this could not be done at WBGH; it could only be done at FGH, WBGH, BNH, and KP. The supervisors at both BNH and KP still thought their room was too small. An 8-position, 87-inch diameter wheel, with 45-inch desks on each side would be nearly 15 feet in diameter. A room at least 20 ft. wide by 40 ft. long (800 sq.ft.) would seem indicated, to allow for a lounge, and office space for the supervisor. The DoD Space Planning Criteria draft document allows 80 sq. ft. per clerk in a central appointment office: for eight clerks this would be only 640 sq. ft. There is no evidence that the DoD criteria contemplate a supervisor, possibly an assistant supervisor, and a lounge being in the CAS room. A crowded office is likely to be inimical to optimum performance.

(27) Because of the demanding nature of the work of CAS personnel, it is believed that the physical surroundings in which they work should be as pleasant as possible. As the Air Force Communications study put it, "(That) surroundings influence production and efficiency is very true for the taxing nature of the appointment clerk's duties." Unfortunately, they found that in half of their hospitals the CAS facilities were crowded, noisy, and had "stark and barren" settings. Most of the hospitals visited in this study had gone to some pains to make the CAS room attractive: several CAS rooms had wall-to-wall carpeting, and all had some type of drapes on the windows. However, in my opinion more could be done in terms of providing modern attractive furniture (chairs, settees or sofas), pictures on the walls, artificial or real foliage plants, and colorful carpeting. In warm weather adequate air conditioning is essential. A coffee pot would be appreciated by most clerks, although perhaps coffee cups should not be permitted at the wheel (to prevent spilling). A lounge should be provided for periodic breaks--either in a secluded part of the CAS room or outside, but nearby. The exacting nature of the job makes rest periods (probably one every two hours) essential, and these should be insisted upon. The need for nearby latrines is also important if excessive time loss for personal needs is to be avoided.

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A STUDY OF APPOINTMENT SCHEDULING CONTROL FOR OUTPATIENTS. (U)
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(28) Service times or appointment intervals were examined in the four Phase II hospitals; they are reported in Appendix 50, together with two sets of standards. There is considerable variation, but Appendix 50 can be used as a guide for those setting up an appointment system for the first time. Note that the time needed for new patients is usually longer than that needed for follow-up patients. It should be realized that doctors work at different speeds, according to experience, skill, and temperament. If appointments are made by doctor (and I believe they should be, to the maximum extent feasible), then the doctor himself should specify the time intervals he needs. Of course, this must be kept within reason, and the schedule should be subject to review by the clinic chief or other professional superior. In the staff survey, doctor satisfaction with existing appointment intervals ran from 64 to 94%. In the patient survey, satisfaction with the appointment interval ranged from 77 to 84%, and dissatisfaction from 6 to 12%. One suspects that satisfying eight out of 10 patients is not bad, but truly personal and comprehensive service will take more time. A significant number of doctors would like to spend more time with their patients, it seems.

(29) Correlating telephone lines needed with workload revealed no consistent pattern--see Table 9. The ratio of total lines available to number of visits appointed per month ranged from 1:507 (FGH) to 1:3,533 (IAH), and the ratio of appointment lines (on a rotary or ACDS, for example) to visits varied from 1:778 (KP) to 1:4417 (IAH). It should be realized that only 20% of IAH's appointments are made by telephone. In the other hospitals, it is clear that many of them are not utilizing their telephone equipment to the maximum extent possible; several lines are not even connected or manned.

(30) For the information of hospitals setting up clinic appointment schedules for the first time, Table 1 lists those clinics that use block appointments, modified to the extent that patients come in at staggered intervals, not all at the start of the clinic session. This is in lieu of giving patients an individual appointment with a specific doctor, on the theory that the clinic can never be sure which doctor will be present on a given day. This is particularly true of the surgical specialties including OB and GYN, when the doctors may be kept unexpectedly long in the operating room, or may be called away for an emergency. Another reason advanced is that patients vary so much in the amount of time needed for each patient that a block appointment system, with each block covering several appointment intervals, allows greater flexibility (as in the two-at-a-time appointment, shown in Figure 1). It must be realized, however, that this destroys the continuity of the doctor-patient relationship, since the patient may see a different doctor each time, unless an informal effort is made when the patient arrives to direct him to the doctor he saw previously, if possible. To this observer it would seem desirable to at least make an attempt to

Table 9

Comparison of Workload to Telephone Lines

	WRGH	MAH (Leav)	WAH	IAH	BNH	KP	WBGH	FGH	MAH	DAH
Workload (outpatient visits appointed per month)	5,723	3,674	27,500	17,666	33,000	21,800	17,106	7,617	15,466	6,820
Total phone lines	11	5	12	5	18	28	11	15	10	6
Appointment phone lines	4	4	12	4	15	28	8	8	6	6
Ratio of total lines to appointed visits	1:520	1:735	1:2292	1:3533	1:1833	1:778	1:1555	1:507	1:1547	1:1120
Ratio of appointment lines to appointed visits	1:1431	1:919	1:2292	1:4417	1:2200	1:778	1:2138	1:952	1:2577	1:1120

appoint by individual doctor, with substitutes seeing the patient if the scheduled doctor is not available, rather than leaving it to chance, which is the case with block appointments. As Hofman, et al, observed "An individual appointment system is the most desirable method of scheduling appointments. Judged by the criteria of patient waiting time, patient no-show rates, and patient and physician lateness, such a system can expedite the effective delivery of ambulatory care."⁶

(31) The question of doctor promptness in starting clinic sessions was not examined directly, but anecdotal evidence indicates that this is an important factor in keeping patient waiting time to a minimum, and contributes to a smooth-running appointment system. As Johnson and Rosenfeld state, the most important step that can be taken to "optimize synchronization of physician and patient" is "the reduction of the time interval between the official beginning of the clinic session and the actual beginning of the physician session;" this implies some changes in policy, and "the establishment of administrative mechanisms for implementation of the policy".⁹

(32) A comment should be made about the patient no-show rate reported in Appendix 49. The rate at FGH--1.8%--was considerably lower than those at the other hospitals. I was unable to verify these figures, which were provided by the CAS supervisor. The same situation obtained at WBGH, where the no-show rate was also below 5%. At WBGH, a number of clinics report no no-shows. I find that very difficult to believe. I therefore suspect under-reporting of no-shows at both WBGH and FGH. For accurate tabulation of no-shows, the system must be geared to count them routinely, and indicate that a patient did not keep his appointment (DNKA) on the appointment lists. There was some variation among clinics in the manner of recording "no-shows." It would be very helpful for management if a uniform procedure were followed, and periodic reports rendered.

(33) From time to time the question has arisen at FGH as to why key-punching of the appointment cards is done by the CAS clerks and not by the Data Processing Branch. Since this question may arise in other hospitals that have punched-card CASs, the following reasons have been advanced by the CAS supervisor at FGH for keeping the key-punching function in the CAS:

(a) Mistakes in the cards, especially those on walk-in patients that come from the clinics for statistical tabulation for the Outpatient Report, can be spotted rapidly by CAS clerks, since they work on the wheel as well as key-punch.

(b) Through-put is faster, since there is no need to carry cards between the CAS and the Data Processing Branch for key-punching.

(c) The CAS clerks get a break from the demanding duties on the wheel by key-punching.

(d) The key-punch clerks get a break from key-punching by working on the wheel. They also act as back-up or reserve CAS clerks who can take over on the wheel when a regular CAS clerk is absent.

Of course, if key-punching is done by the CAS staff, the key-punch room must be closed off in a sound-proof room.

(34) Support of the CAS function by the various levels of hospital management varied considerably from hospital to hospital. Some managers view the CAS as an important part of the hospital system; others apparently do not think it to be so important. It is perhaps significant that in the Staffing Guide for AMEDD Activities (DA Pam 616-557) there is no separate listing of a central appointment system in the hospital organization--it is included in the Administrative Support Branch of the Department of Clinics. Perhaps a break-out of a CAS section would give the CAS a little added recognition, and remove any ambiguity as to what constitutes the staffing for such a section. Several individuals interviewed during this study suggested that the CAS should more properly be assigned directly to the Chief of Professional Services or to the hospital commander himself, not to the Chief of the Department of Clinics, in order to give it more recognition and support. There are many professional questions that need answering in the daily operation of a CAS, for which doctors must be consulted if the standing guidance does not suffice. It has been suggested that this would mean that the CPS or the commander would have to get involved in the operation of a CAS in too much detail, and that the other demanding duties of the CPS or the commander would usually not permit this. This study cannot answer this question since nowhere was the CAS in any other relationship than assigned to the Department of Clinics, and directly supervised by administrative assistants to the Chief of Clinics. It is thought that a trial of supervision by professional personnel on a higher level is worthy of a trial at one hospital. If the CAS is kept in the Dept. of Clinics the liaison officer between the CAS and the doctors and clinics should be a strong, respected individual.

(35) A common observation by hospital personnel was that patients should be better informed about the operation of the appointment system. WBGH had prepared a story for the local post newspaper that made some points all hospitals should keep in mind:

(a) Doctors often instruct their patients to "see me in 10 days" but do not specifically tell the patient to make an appointment with the CAS. Many patients then wait until the last minute to call the CAS. A number of patients report to the CAS that the doctor

told them to come in at their convenience. The point is that patients should be told to call the CAS for future appointments as soon as possible after they leave a clinic.

(b) Patients fail to write down their appointment times and have to call the CAS for verification.

(c) Patients waste time when calling for appointments by not having their sponsor's social security account number available when they call.

(d) Patients often fail to list a phone number where they can be reached during duty hours; this is especially true of working mothers.

(e) Secretaries who call for their bosses, and friends and husbands who call for the patient, often do not have all the required information available, and do not know exactly what the problem is or what clinic is needed.

Correction of these problems should make for a smoother CAS operation.

(36) An attempt was made to discover if clinics lost personnel to the CAS when CAS offices were organized at the various hospitals visited, since presumably such actions would make the CAS unpopular with the clinic chiefs affected. The most recently organized CAS--that at DAH--received six new personnel spaces (although this has not yet been approved by CONARC); the clinics didn't lose any personnel. On the other hand, at WBGH all the CAS staff came from elsewhere in the hospital--however, they already had a semi-centralized appointment system, and WBGH has a much larger staff to draw upon than does DAH. The circumstances at FGH and MAH are unknown with respect to this issue. However, it would be logical to assume that if a large clinic has sufficient volume to keep one or more clerks busy full-time making appointments, there would be no adverse effect on clinic operations if the full-time appointment clerks were transferred to a CAS. Smaller clinics cannot give up "half" of a clerk. Adequate staff for the CAS is essential. As Wassertheil and Meyer point out, it is very important to provide for properly trained replacements for the regular CAS clerks and for adequate supervision, but that "All this really means additional staff. That is a fact of life which must be faced by administration. An individual time appointment system cannot be properly run 'on the cheap!'"³⁶

b. During the course of this study a number of reasons for disliking the CAS concept have been expressed over and over by opponents of the CAS, especially physicians. Some of the more common general reasons are given below, together with some possible answers to these objections derived from an examination of central appointment systems in 14 institutions.

(1) Clinic/Service chiefs don't like external interference in their clinic operations.

Answer: show them how the CAS is better than the decentralized system; show what it can do for them. Data from this study may be useful for this purpose.

(2) Clinic/Service chiefs are afraid a CAS would reveal poor clinic productivity.

Answer: that is an excellent reason for a CAS.

(3) Clinic/service chiefs' ignorance of what a CAS has to offer.

Answer: CAS supervisor, and her supervisor, should enter into dialogue with them concerning perceived problems, and benefits of CAS; a public relations approach by the CAS is needed.

(4) Some clinics deal only with emergencies, or with immediate referrals.

Answer: if there is no need to schedule any visits in the future, then no appointment system is needed at all.

(5) Lack of command emphasis.

Answer: command support for this somewhat controversial service is vital.

(6) Clinic/Service chiefs do not believe that CAS clerks could possibly know all the necessary, myriad details and procedures of 40-60 or more clinics (at least, not as well as their own clinic secretary or receptionist).

Answer: show them that they can, that it is possible. Show them that CAS clerks become experts in clinic procedures (and do not have to also be expert secretaries or receptionists or chaperones). Get testimonials from satisfied clinic chiefs in the hospital concerned.

(7) A CAS is too impersonal.

Answer: The patient survey revealed that 38.6% of all the patients responding believed that the CAS clerks do take a personal interest in them; an additional 21.2% said they did sometimes. Of those patients with an opinion, over half (57%) said that the clerks appeared to take a personal interest in them. In addition, approximately none out of 10 usually found the clerks to be courteous. While there could, and should, be improvement in the amount of personal interest expressed

by the clerks--good telephone technique by all clerks would help--these figures show that many patients do perceive the CAS to be satisfactorily personal in nature.

(8) The CAS is too inflexible.

Answer: It is impossible to know what is always meant by this, but often it clearly means that doctors can't change their schedules as often or as easily as they would like, or they can't reappoint their follow-up patients exactly as they would like. As this study has discussed previously, there are ways of doing this satisfactorily, providing the doctors work closely with the CAS clerks and/or supervisor. Unfortunately, I found many doctors who had never visited the CAS office, and had only the sketchiest knowledge of the CAS operation. More communication is dearly needed between doctors and the CAS. It is also apparent that often "inflexibility" means that the doctor's time is being controlled, requiring him to be in the clinic at certain specified times. This is, indeed, one of the most valuable benefits of a CAS.

(9) With a CAS one is limited to seeing those patients that can be accommodated in available appointment slots; with a clinic-run system many more patients can be seen because they can be easily worked into the schedule.

Answer: Double-booking or overbooking can be accomplished with a CAS, either with or without consultation on each case. This is being successfully done in a number of clinics visited, especially in the civilian community. This is common at PBBH and at the Lahey Clinic, where the more patients are seen the higher is the doctor's income. They also feel that a CAS is the only way to efficiently schedule outpatient visits.

(10) With a CAS one can't have a patient return the next day, especially if the books are already closed.

Answer: This can be done by leaving open spaces on the schedule for such late appointments, and having the CAS call the appointments in to the clinic periodically. This is done at the Pediatric Clinic at WBGH.

(11) With a CAS the doctor can't see the list of all his appointments for the next month, or whatever future time frame in which he is interested.

Answer: This is true. However, some doctors make it a point to visit the CAS, say once a week, in order to do this; this is facilitated if the CAS is in the hospital building. Questions about a given day or week can also be discussed over the telephone. A really satisfactory answer to this will await an on-line computer system with a terminal in each clinic. PBBH now has printouts for one day of the week for four weeks in advance.

(12) One-physician or one-provider clinics already have a receptionist, and appointment-making is easily handled by this individual in addition to her other duties. A CAS is simply not needed in this situation.

Answer: This reasoning has some merit, but ignores the advantages of a CAS, especially for the patient, in terms of having one telephone number to call, ability to make multiple appointments, and so on. It ignores management's interest in supervision of professional resources. It also ignores the advantages to the individual doctor and clinic. These points are summarized in paragraph 17d, below. As a matter of fact, in many hospitals one-physician clinics are common in the CAS.

(13) No complaints have been received from patients on a decentralized operation.

Answer: Arguments from silence are always risky. Patients may not object to a practice if they know of no alternative. The positive advantages of a CAS should be explored, and--usually--tried, before rejection of the concept.

(14) In certain clinics patients who do not keep appointments must be contacted--such as those on anti-tuberculosis medication.

Answer: This could continue to be done by clinic personnel, while appointments are made by the CAS. A registry could be kept in the clinic to detect those patients who have not even made appointments.

(15) Some clinics insist on one of their physicians seeing a patient (or a consultation request form) and deciding on the relative priority or urgency of a patient for an appointment. This is especially true in clinics with large appointment backlogs.

Answer: This situation is not incompatible with having the clinic on a CAS. Once the decision about priority of appointment has been made by a doctor, the patient can still call the CAS for the appointment--or have the clinic personnel do so. This may mean over-booking, if necessary. However, there are other considerations:

(a) Patients referred by another doctor should have a consultation sheet (SF 513). Unfortunately, SF 513 indicates priority only by "routine" or "emergency". A third category, "priority", would be more appropriate in many cases, including "administrative emergencies" that arise so often in the Army. Perhaps the phrase "within ___ days" could be added to the word "priority" on the form. Lacking this, local forms could be devised to indicate the priority shown in Appendix 59 and Appendix 73.

(b) If the specialty clinic doctors distrust the judgment of referring doctors in the matter of deciding on the urgency of a consult (this was a point made in several cardiology clinics), then it would seem that more education of the referring doctors (in the hospital) is indicated, and should be given a prominent spot in the hospital's continuing medical education program. In a similar vein, if the specialty physicians distrust the judgment of CAS clerks in such matters, then more training of the clerks by the clinic doctors seems advisable. (For an example of such guidance, see Appendix 74.) This would be in keeping with the nationwide trend to have lesser-trained individuals do tasks that doctors do not need to do--and surely it is possible to devise a better system than to interrupt a doctor who is already seeing patients to advise on the matter of urgency of appointment need for walk-in (or telephoning) patients. Written protocols can be devised, listing questions to be asked of patients, based on an assessment of "what can't we afford to miss?". Such questions are routinely asked of OB-GYN patients at WBGH, for example, and no catastrophes are known to have occurred as a result.

(c) If a large appointment backlog is the problem, then measures should be taken to reduce it, such as:

- 1 Extending clinic hours each day.
- 2 Holding more clinic sessions each week.
- 3 Reallocating professional resources to the clinic concerned.
- 4 Utilizing military consultants from other hospitals, or physicians on TDY for a period of time.
- 5 Referral to civilian physicians at Army expense as authorized in Section VIII, AR 40-3.
- 6 Encouraging patients to seek care under CHAMPUS.

(16) Some clinics require that a physician review a record (either the patient's outpatient record or a special record maintained in the clinic) prior to deciding when a patient should be appointed. Examples are Radioisotope Clinic, Radiotherapy Clinic, Hematology Oncology Clinic (for leukemia patients, for example).

Answer: This should still be considered incompatible with being on a CAS: see answer to (15), above. The CAS clerk could do this consulting with the clinic via telephone when the patient calls the CAS.

(17) Some clinics keep and file their own outpatient records (such as Pediatrics at one hospital, OB-GYN, Family Practice, and all Dental Clinics). It is argued that therefore appointments should be made in the clinic, too.

Answer: The fact that most OB clinics visited are on a CAS shows that keeping a record in a clinic is not incompatible with being on a CAS. In Pediatric Clinic it is claimed that when patients' parents call in for an appointment, the record is often pulled for physician review and a decision is made as to length of appointment and doctor to see the patient without losing the connection. It is not known how often this occurs, but it is doubtful it happens with every patient. If it occurs infrequently, with a good CAS—clinic intercom or call transfer system, in problem cases this could be done via the CAS. However, in clinics such as Pediatrics where nearly all of the care is given there, and the records must be kept there due to space limitation, it is argued that the entire operation should be handled there, including appointments. Of course, this precludes taking advantage of the benefits of a CAS, including the removal of constantly ringing telephones from the clinic area. Keeping one set of outpatient records separate from other outpatient records also makes truly comprehensive care more difficult as far as the other specialty clinics are concerned, and in general appears to be a thing to be avoided. When a patient needs to be seen in another clinic, the patient or parent must go to the clinic and pick up the record. An alternative would be the use of Electro-writers to call for records (done at DAH and Mayo clinic). Routing completed laboratory, x-ray, and other reports back to the record becomes more problematical if more than one record repository is involved. It must be realized that all CAS offices visited in this study are physically separate from the outpatient medical record repository. Nevertheless, the message is communicated to the Medical Records Section in time for four-fifths (84.8%) according to the patient questionnaire) of the medical records to be delivered to the proper clinic. Of course, this is not perfect, and should be improved--in fact, this is the subject of a separate Health Care Research Division study--but is probably not a result of a dysfunction of the appointment system, but of the medical record handling system. In my view, allowing each doctor in every clinic to be able to lay his hands immediately on any patient's record he wants is neither practical nor compatible with comprehensive care. Medical records would truly be in a state of chaos if this were permitted.

c. Certain specific clinics have offered special reasons why they should not be in a centralized appointment system. Moreover, there were certain clinics that the project officer discovered were not on the CAS in any of the hospitals studied. These are discussed below.

(1) The Thoracic Surgical Service at one hospital believed that the use of a CAS would not be best because of the need for

coordination with the Pulmonary Disease Service and the Cardiology Service prior to surgery, and that this is handled in a joint conference.

Answer: Coordination of the meetings of the representatives of three services would seem ideally suited for a CAS. Or, such conferences could simply be scheduled routinely by the CAS. It should be noted that the Thoracic Surgery Service at one of the hospitals studied is on the CAS at that hospital.

(2) One Medical Clinic training nurse clinicians for several weeks at a time finds a need to assign specific patients to the students ahead of time, and to call the patients by telephone and ask them if they would be willing to be seen by a nurse clinician. If they agree, they are asked to come in earlier than originally scheduled, because nurse clinician students take about two hours to see a patient.

Answer: If the patient lists were kept in the CAS, the individual calling--and the nurse clinician program director or teaching staff member might be appropriate--could go to the CAS office to get this information, perhaps once or twice a week. The making of telephone calls to patients is the special province of CAS clerks, and one of them could be specially coached in this task, if desired.

(3) Two Prenatal Clinics feel that the large volume of patients in this type of clinic makes participation in a CAS unsuitable; they prefer to reappoint those patients at the time they are seen in the clinic.

Answer: A direct telephone or intercom line to the CAS would help here; perhaps clinic personnel could call for the patients every five or 10 minutes. Another alternative is the self-service form used at BNH (Appendix 16).

(4) One Gynecology Clinic feels that CAS clerks could not screen patients properly, and that this could only be done by specially trained receptionists (including one at the CAS, if necessary).

Answer: The GYN Clinic at WBGH has trained the CAS clerks to screen GYN patients. No unfavorable incidents are known to have occurred. To assist the clerks at EGH in their questioning of patients with gynecological problems the GYN Clinic there has furnished the clerks a list of common problems and complaints, with definitions (Appendix 75).

(5) Three of the four Phase II hospitals have Cardiology Clinics, and the chiefs of all three clinics object strongly to being put on the CAS. Many of their arguments are the same as those advanced by other clinics, and have been dealt with above. Other reasons are:

(a) Cardiologists' schedules must remain very flexible in order to allow them to do many unscheduled tasks and procedures, such as echocardiography, vectorcardiography, phonocardiography, exercise stress procedure monitoring, staff conferences, lectures, consulting, research, handling emergency requests, and so on.

Answer: If a schedule is so uncertain, the clinic staff must find it very difficult to know where the doctors are, and how to schedule patients. In private practice tighter scheduling would surely be essential. And as mentioned before, what a keen clinic secretary can be taught, a keen CAS clerk can be taught--especially if one clerk is given the liaison responsibility for this, with the further responsibility to keep her fellow clerks informed. Again: close coordination between the CAS and the doctors is vital: the CAS will do what the doctors tell them to; if they are not told what to do, they cannot do it. Their capacity for grasping the details of clinic procedure should not be underestimated.

(b) Frequently, the Cardiac Clinic receives telephone requests from physicians in other hospitals seeking outpatient consultations for their cardiac patients.

Answer: CAS clerks are used to taking out-of-town requests for appointments; special toll lines and AUTOVON lines should be available to them. Other hospitals can either be told to call the CAS first, with further consultation with the Cardiac Clinic doctor via a conference call if necessary, or the other doctor can call the Cardiac Clinic, and be transferred to the CAS once liaison with the cardiologist has been established.

(c) Many cardiology patients are aged and infirm, and requiring them to call the CAS would be a hardship.

Answer: Each clinic area should have one telephone reserved for patient use at which a patient can be seated (in a regular chair or wheelchair). Alternatively, the clinic staff can call the CAS for the patient.

(d) Cardiology Clinics are serviced by the CAS at IAH, KP, LC, and PBBH.

(6) The Family Clinic at one hospital keeps its patients' records in the clinic, and feels good family practice requires this, as well as keeping appointment-making in the clinic.

Answer: The same as in paragraph b(17), above; it is believed that the medical record-keeping and appointment-making functions can

be separated without harm to patient care. At IAH, the appointment-making for the Family Practice Clinic is handled by the CAS (with only a four-day backlog as of 20 Oct 72).

(7) Radiology Clinics (regular diagnostic x-rays as well as radiotherapy) are not on a CAS at any hospital studied.

(a) Diagnostic x-rays are always taken on referral from a doctor, often on an urgent basis, so a patient is always already in the hospital or clinic when he is required to go to Radiology. Thus, most of the patients are walk-ins, and must be. A large portion of the patients are seen right away. For those who must be given appointments, they must be given written instructions, and often laxatives or contrast media tablets to take before coming in for the radiological study. Special studies may be requested by the radiologist as he examines the patient, and the patient reappointed for the next day. Medical records are not pulled for these patients, since the pertinent medical findings are outlined on the radiological request form (at least, they should be!). It does not seem practical to put a diagnostic radiology clinic on a CAS. However, a pioneering radiologist may want to try it at least for the appointable studies, such as upper GI series, and have the patients come by the clinic just to pick up instructions or medications. This would relieve Radiology Clinic personnel of appointment-making responsibilities.

(b) Radiotherapy Clinics always see patients by appointment, once the radiation dosage is calculated. It would seem theoretically possible to appoint these patients via a CAS; however, it must be stressed that this observer has not seen it done anywhere.

(8) No Occupational Therapy or Physical Therapy Clinics were on a CAS. Their chiefs always argued that their clinics always saw all new patients immediately, without waiting, and that all such patients were referrals from within the hospital or Department of Clinics. Scheduling these often very handicapped patients, many of whom are long-term inpatients, for on-going care is clearly a complex matter, involving the varied skills of various therapists, and various therapeutic modalities, such as whirlpool, ultrasound, diathermy, exercise wheels, traction, bicycles, looms, leathercraft, and so on. Furthermore, each disability requires various treatment times. Each patient must be personally seen and evaluated before his treatment plan can be decided upon, and this plan will often change over time before he is discharged from the clinic. In the two PT clinics I visited, patient schedules were displayed on the wall on large acetate-covered boards, using two colors of grease-pencils (to distinguish sex, for example). Many patients visit the clinic twice a day for their therapy. In view of all of these considerations, it does not appear wise to attempt to schedule

these two clinics via the CAS. They may be good prospects for on-line computer scheduling, however.

(9) In no hospital studied was the Psychiatric Clinic, or any of its related clinics (Social Work Service, Mental Hygiene Consultation Service, or Psychology Clinic), on a CAS. The following typical rationale was offered by one hospital Chief of Psychiatry:

"The (clinic) operates essentially a walk-in clinic due to the special consideration necessary in giving emotionally and mentally disturbed patients immediate consideration during their time of crises.

"Walk-in patients are seen by an intake worker on the same day who observes the seriousness and urgency of their problem. This could not be adequately done by a Central Appointment System and would result in a decreased caliber of care for psychiatric patients.

"Follow-up appointments for continued therapy are made between the particular therapist and the individual patient at times mutually agreeable and any third party system would be cumbersome, detrimental and confusing to efficient patient care for psychiatric patients."

Answer: a) It is clear that, for new patients, if a clinic can immediately handle all new patients on a walk-in basis, then no appointment system is needed for them. The first contact with professional personnel is often crucial with emotionally disturbed individuals. As one social worker stated, "The game is often won or lost on the initial contact with troubled people". A telephone suicide prevention service operates on this principle. It is quite problematical whether CAS clerks could perform this function, although they should be trained to some extent in the art of handling "troubled patients" over the telephone, in my opinion. However, I am sure that there are some appointed new patients to Psychiatry and Mental Hygiene Clinics, such as patients referred from other clinics, and military patients referred for administrative certification reasons. Appointments should be possible via a CAS for these patients.

b) If the initial contact is usually on a walk-in basis, with immediate interview by skilled professional intake workers, would any purpose be served by having follow-up appointments made by the CAS? Psychiatry Clinic personnel unanimously say "No", that they must schedule their follow-up appointments themselves, to remain "flexible". Of course, this argument is advanced by many clinics, and it is difficult to see how Psychiatry Clinics are so different as far as follow-up patients are concerned. A therapist-initiated memorandum to the patient to tell the CAS when and for how long to appoint for the next visit should suffice.

(10) None of the hospitals studied had Dental Clinics on the CAS. Often, Dental Clinics were not even considered. However, they are believed to offer the same opportunities, and problems, for centralized scheduling as clinics dealing with other parts of the body. Some of the arguments advanced against being on a CAS are similar to other clinics:

(a) The length of appointments vary, depending on the patient and treatment needed. Thus, appointment schedules need to be "flexible".

(b) Dental records are always maintained in the Dental Clinic,

(c) Appointments often need to be coordinated between dental specialties.

(d) Dentists like to be near their appointment books, especially in a family or general type of practice, and to have control of their own appointments.

All of these reasons have been dealt with before when discussing medical appointments. The comments of Andrew G. Jessiman, MD, Associate Director of Professional Services at Peter Bent Brigham Hospital, Boston, MA, are pertinent here. He stated to this observer: "Doctors say they must control their own clinics...well, of course they must! The Central Appointment System enables them to do this more effectively." In his view, the doctors tell the CAS how to schedule their patients. However, he also warns against excessive flexibility. In his clinics at that world-famous hospital, "doctors have little or no flexibility--because when the rules are changed to suit the doctor, then the patient usually suffers". It would seem that the only theoretical obstacle to putting Dental Clinics in is lack of capability of most CAS installations to handle the large volume of dental patients without significant expansion. An additional consideration is that I observed no hospital where dental patients were appointed on a CAS; in my view it deserves a trial.

(11) No hospitals were observed in which Neurosurgery Clinics, Speech Therapy Clinics, or Physical Examination Clinics were fully on a CAS. I know of no theoretical obstacle to their being on a CAS if the principles outlined in this study are followed.

(12) Inhalation Therapy Clinics were not on the CAS at any hospital studied. Such clinics are known to see mostly inpatients; the outpatients they see visit up to four times a day, and are handled primarily by allied health personnel; and medical records are generally not pulled for the visits. This clinic does not appear suitable for a CAS.

(13) Immunization Clinics are always staffed to provide immediate service to all patients who present themselves. If there is essentially no waiting, then there is no need for appointments.

(14) Emergency Clinics or Emergency Rooms are also staffed to provide immediate service to all patients who present themselves. Follow-up visits are not handled here. If there is no need to schedule any visits in the future, then no appointment system is needed.

(15) The question of whether to place Troop Medical Clinics on a CAS is being investigated by the Health Care Research Division as part of its separate study of sick call scheduling. Conclusions concerning that issue will be deferred until that study is completed.

(16) The presence of all other clinics on a CAS at one or more of the hospitals surveyed in this study indicated that it is possible to put them on a centralized appointment system.

d. It is apparent that there are certain advantages to a centralized outpatient appointment system that should be pointed out to those who have been most suspicious of such a system--the physicians and other health care providers. These advantages are presented in Table 10.

Table 10

Advantages of a Centralized
Outpatient Appointment System
for Clinic Staff (and for Patients)

1. Frees clinic receptionists, nurses, and other personnel from need to be appointment clerks; enables them to coordinate clinic activities, and act as nurses, secretaries, receptionists, chaperones.
2. Elimination of noise engendered by telephone and filing equipment in clinic areas; thus, less staff fatigue.
3. Availability of full-time staff to reappoint patients whose appointments have to be cancelled due to doctor's unavoidable absence.
4. Availability of full-time staff to answer telephone calls that would otherwise be coming into clinics and tying up receptionists, doctors, or nurses (telephone answering service).

5. Provision of staff that have appointment-making as full-time duty: hence, can receive special training and become very expert in it.
6. Availability of well-trained supervisor to handle difficult, often hostile patients.
7. Makes it possible to make multiple clinic appointments for same day; can coordinate such visits properly.
8. Produces a neatly typed or computer-printed appointment schedule for clinics and each doctor, if such system used.
9. Capable of producing workload data that each clinic chief should find useful in managing his clinic, and in comparing his operation with other clinics.
10. Can be one source of information to the public concerning hospital clinic operations: one number for patient to call.
11. Expands number of telephone appointment clerks and phone lines; each clinic thus has equivalent of X (CAS) number of phone lines and appointment clerks, with rotary or automatic switching device. Recording available.
12. Appointment clerks have knowledge of all clinics and types of patients accepted, so can more accurately direct patient to proper clinic, if patient needs such guidance, than can a specialized clinic receptionist.
13. Can facilitate assembly of nurses, ancillary personnel, supplies, and space for clinic sessions.
14. Can take advantage of mechanization, automation, and other aspects of improved technology in a way that would not be cost-effective if decentralized.

e. There are other advantages for hospital system managers. Some of these are listed in Table 11.

Table 11

Advantages of a Centralized Outpatient
Appointment System for Hospital
System Managers

1. Provision of timely, useful information concerning outpatient workload and physician and clinic productivity, for management purposes: this may result in an ultimate increase in the number of ambulatory patients seen per unit of time.
2. Uniform system of collecting outpatient workload data, with greater likelihood that data will be comparable from clinic to clinic, and accurate (due to standardized, concentrated supervision).
3. Assurance of standardization of procedures which decreases staff orientation time, speeds up hospital staff understanding of the system, and hence increases hospital staff efficiency.
4. With centralized supervision, vigorous, dedicated efforts can be made to constantly improve appointment services to all clinics.
5. Promotes fuller utilization of available physician time.
6. More precise scheduling of all clinics on a coordinated basis tends to increase utilization of facilities.

Section VII - Conclusions

18. Conclusions. As a result of this study of the noncomputerized central outpatient appointment systems of 10 Military and civilian health care institutions, and of observation of four computerized systems, the following conclusions have been arrived at:

a. Centralized outpatient appointment systems are generally effective and efficient mechanisms to insure that the health care provider, the patient, and his health records, arrive at the right place at the right time for a patient-provider encounter on an ambulatory basis with a minimum of waiting by either party.

b. Certain specific conclusions are listed below:

(1) Central appointment systems generally collect appointment schedules in a circular, rotating file serviced by a group of clerks who communicate with patients by telephone. A central appointment system (CAS) is very complex; specific desirable characteristics of its component parts are listed in the Recommendations section of this report. Details of how various hospitals handle different subsystems of a CAS are found throughout Sections II, III, and IV, and the Appendices. To eliminate the problems inherent in having two different appointment systems in one hospital, as many clinics as possible should be on the CAS.

(2) The major manufacturers of rotary file equipment for a CAS are Acme Visible Records, Inc., and VISIrecord Systems. Installations with both manufacturers' equipment have been described. Neither seems to be clearly superior to the other.

(3) A good telecommunications systems is essential for smooth functioning of a CAS. If two or more clerks are used, at least a rotary ring-down device should be utilized. With larger systems, an Automatic Call Distribution System (ACDS) becomes more cost effective (the closer one approaches 10-position systems). However, both the GTE Automatic Electric Company and the Bell Telephone System are currently developing small, economical call distribution systems based on key telephone switching circuits that may be more practical than the much more costly ACDS.

(4) The CAS should have enough telephone circuits and clerks to keep busy signals to 6% or less. The system should provide telephone traffic monitoring registers.

(5) There should be enough telephone circuits to permit easy communication between the CAS and the clinics serviced, with

transfer and conferencing capabilities.

(6) From 14 to 38% of call telephone calls to a CAS will be for information only.

(7) The provision of in-house telephones reserved for patient use is a very desirable feature of a CAS.

(8) Separate numbers for cancellations and for long-distance calls is a desirable feature.

(9) Clinic and doctors' schedules, and the appointment record for individual patients, should be combined on the same form—either on a series of punched cards, or on multi-leaved no-carbon copy paper. For non-punched-card systems, there should be one copy for the CAS, one for the Medical Record Section, one for the Clinic, and one for the doctor. All the details of the content of such forms cannot be given here, but certain minimum items of information should always be included (see paragraph 17 a(11)).

(10) Clinic and doctors' SOPs are probably best kept in a multi-leaved file, such as the Acme Visible Records' Multi-Card Bulletin Holders (Section 12, CSA Schedule GS-00S-14491).

(11) Appointments in a CAS should be made only by telephone (plus a few by mail). Problems can be discussed more freely by phone.

(12) At least 70% of all outpatient visits (as at WAH), and possibly as many as 93% (BNH) of outpatient visits should be able to be appointed with at least some advance notice.

(13) It is not clear how many clinics can be accommodated by a CAS. All hospitals had some expansion capacity. Limiting factors may be telephone equipment, rotary files, or number of doctors served. The largest rotary files known to be used in a CAS have 12 positions. The largest number of doctors reported to be served was 170 (BNH). The largest number of individual clinics served was 57 (WBGH).

(14) The number of doctors served per clerk ranged from 6 to 24, with an average of 13. The largest number of doctors served per clerk was 24 (BNH); in the Phase II Army hospitals the largest number was 19 (FGH). (This is in contrast to Rosenfeld's 4 to 5 1/2.)

(15) At the four Phase II study hospitals, the maximum number of telephone calls handled per clerk per day was 242 (MAH); the maximum number of appointment calls handled was 161 (WBGH). (This is in contrast to the DoD standard of 140 appointments.) In a maximally efficient system even 161 should be able to be surpassed.

(16) The length of the average telephone call to the CAS varied from 1.7 to 2.0 minutes; the average appointment call ranged from 2.1 to 2.4 minutes. (Short information calls account for the difference.) This is in contrast to the DoD standard of 3 minutes per appointment.

(17) The lowest no-show rate achieved at the four Phase II hospitals was 1.8%, but this figure is suspect, as is the next highest, 4.5%. One should probably aim for a maximum of 5% (as at LC).

(18) The patient cancellation rate ranged from 4.6 to 8.8%.

(19) The best operating hours should probably be 0700 (for acute illnesses, especially in Pediatric Clinic) to 1900 Monday through Friday, and 0800 to 1200 on Saturday.

(20) The number of clerks assigned to a CAS will depend upon the size of the operation. An assistant supervisor and a messenger may be helpful. CAS clerks should be at least pay grade GS-4, and probably GS-5. Their characteristics are listed in paragraph 17 a (16).

(21) A CAS should be able to make appointments at least two months in advance, with some suspense holding file for longer term appointments.

(22) Short-lead-time appointments can be handled in several ways, including "modified walk-ins" appointed by telephone on the day of the appointment (see paragraph 17 a (18)).

(23) Excessive appointments should be able to be handled by the methods described in paragraph 17 b (15).

(24) All follow-up appointments should be able to be made via the CAS if clinic doctors will exercise close coordination with the CAS, including giving them authority to double-book patients if necessary.

(25) The CAS should provide the Medical Records Section (and the Radiology Service for the Orthopedic Clinic) with cards or listings of patients by terminal digit number to facilitate pulling the records or files and filing a charge-out card in the stacks.

(26) There are various ways of handling walk-in patients. These are discussed in paragraph 17 a (19).

(27) The hospital should exercise some control over doctors' ability to change their schedules at will. At the same time, the system must provide timely notice to the CAS of doctors' absences.

(28) Only about one-quarter of the staff members queried felt that erroneous appointments were made with any significant frequency.

(29) The most frequent report generated by the CAS was the weekly appointment backlog report. The Outpatient (MED 80) Report was produced by several CASs. Several also make reports of workload (telephone calls handled).

(30) Staff opinions about their hospitals' CASs are presented in Appendices 60 through 64; patient opinions are presented in Appendices 65 through 69. Staff recommendations for improvements are given there, as well as in Sections II and IV.

(31) Self-referrals by patients to specialty clinics should be encouraged, especially for patients with known problems, and with screening and guidance by CAS clerks.

(32) Most patients found CAS clerks to be courteous: those who always or usually found this to be so ranged from 85.0 to 91.6% at four Phase II hospitals. Only about a third of all patients responding thought the CAS clerks took a personal interest in them; however, of those with an opinion, over half (57%) thought that they did.

(33) Nearly three-quarters (73.6%) of all patients thought the waiting time in clinics was reasonable.

(34) CAS offices should probably have at least 800 sq. feet for an 8-position rotary file, and enough room for a lounge. The room should be attractively furnished. A latrine should be nearby.

(35) Appendix 50 contains data on appropriate appointment intervals for various clinics—both predicted (standard) and actual. This data should be useful for new CAS installations.

(36) Appendix 51 contains data on the hours per week a clinic should be expected to be open. Hospitals were seen to differ from one another and from two sets of standards. This material may be useful as a guide.

(37) A punched-card CAS with computer support, as at WRGH and FGH, is believed to have a number of advantages over pure paper, "non-mechanized" systems, especially with respect to the generation of appointment lists, charge-out cards for medical records and x-ray files, and generation of statistical data, including the Outpatient Report.

(38) Data on correlation of workload with telephone lines is given in Table 9. Such correlation was essentially nonexistent, probably due primarily to different systems in use at each hospital, unequal saturation of each system, and variations in reporting procedures used.

(39) Appointment lists or cards should be sent to the Medical Records Section as late as possible on the day prior to the appointment. A night shift should pull the records, if at all possible.

(40) Table 1 shows clinics using a modified block appointment system. In this observer's view, all clinics should be discouraged from using block appointments of any kind.

(41) The following clinics were not on a CAS at any hospital studied:

- (a) Psychiatry
- (b) Social Work
- (c) Neurosurgery
- (d) Speech Therapy
- (e) Physical Therapy
- (f) Occupational Therapy
- (g) Inhalation Therapy
- (h) Radiology
- (i) Immunization
- (j) Dental
- (k) Physical Examination
- (l) Emergency Room
- (m) Troop Medical Clinic

Section VIII - Recommendations

19. Recommendations. The following recommendations are made as offering means to successfully implement a central outpatient appointment system in Army medical treatment facilities:

a. Every Army hospital that has a central appointment system should seek to upgrade it in accordance with these recommendations; every hospital that does not have a CAS should establish one.

b. Specific recommendations are as follows:

(1) All central appointment systems should be designed or modified to provide sufficient telephone lines and instruments to accommodate both current workload and future expansion.

(2) When a CAS has more than two telephone lines, at least a rotary ring-down system with recording device should be installed. The new small call distribution systems being developed by Automatic Electric Company and the Bell System should be investigated. Full-fledged Automatic Call Distribution Systems may be indicated.

(3) Each CAS should have in-house lines between each clinic and the CAS to facilitate communication between doctor/clinic and the CAS clerks. Such lines should be separate from the lines used by patients to make appointments.

(4) Each clinic should have enough in-house phone lines, either direct or regular, to the appointment clerks to enable patients seen in the clinics to make their own return appointments. Some phones should enable aged or infirm patients to be seated while calling. Appointment blanks and pens should be provided. Automatic card-dialing telephones should be considered.

(5) In certain clinics, where the return appointments are purely routine and stereotyped, as in obstetric follow-up appointments, the use of self-service appointment sheets by the patients themselves should be considered.

(6) All other follow-up appointments should be made by the CAS.

(7) Each CAS should have the means to indicate the actual number of incoming calls being held (as on an ACDS), and these indicators should be readily visible to all CAS appointment clerks.

(8) Each CAS should be able to record the actual number of

busy signals obtained. A Lost Call Register may suffice.

(9) All tiers on trays on rotary file tables should be motorized.

(10) The CAS supervisor should have direct telephonic communication with all clerks' telephone lines.

(11) Each CAS that uses punched cards should cross-train all clerks to do key-punching, and CAS should handle its own key-punching.

(12) The use of punched cards sorted by terminal digit number as charge-out cards appears to be the best outpatient medical record charge-out system, and should be used if possible.

(13) Each CAS should design a method to collect data on number of appointments made, number of walk-ins, number of no-shows, number of cancellations, number of patients seen per doctor, clinic appointment backlog, and provide this data to clinic and hospital management, and to the medical staff. If it is desired to establish criteria or standards for the above data, physicians—preferably at the hospital or clinic concerned—should be involved in setting those standards.

(14) Procedures should be developed to accommodate all types of visits, including urgent, administrative emergency, and medical emergency visits, with short lead times.

(15) Larger CASs should consider staffing with at least one messenger, to pick up and deliver punched cards, appointment lists, etc.

(16) Liaison between CAS and clinic/service chiefs and staff physicians, including house staff, is essential. Presentations of the CAS procedure or problems at staff meetings should be considered. Tours of the CAS by physicians should be considered; discuss advantages of CAS.

(17) Each CAS facility should be attractively furnished, with carpeting, pictures, curtains (if windows), and adequate air conditioning and lighting. There should be a convenient lounge for the clerks. Periodic breaks from the telephone are recommended.

(18) There should be no walk-up, in-person appointments. All appointments should be by telephone.

(19) If appointment slips are used, carbonless copy paper should be used.

(20) A CAS should avoid requiring the appointment clerks to fill

out both a clinic schedule sheet and a separate appointment slip. These should be consolidated (both VISIrecord and Acme Visible Records make such forms).

(21) The CAS should be covered during the noon-hour, and as far into the evening hours as is feasible. 0700 - 1900 Monday - Friday and 0800 - 1200 Saturday is suggested. Staggered hours should be considered. (See AR 1-17: "Adapt office hours to suit the needs of the public being served.")

(22) For large institutions and CAS staff, liaison personnel on the CAS staff, intermediate between the doctors and the clerks, and apart from the CAS supervisor, should be considered.

(23) The use of chalkboards to facilitate filling late cancelled appointments should be considered (see K-P).

(24) There should be provision made for filing appointment requests that exceed the current capacity of the CAS in a holding suspense file.

(25) Doctor and clinic instructions/SOPs should be readily available to each appointment clerk. A file like Acme Visible Records Multi-Card Bulletin Holder is suggested.

(26) Appointment workload forecasts should be furnished to the Chief, Clinic Nursing Section, for clinic staffing purposes.

(27) Headphones, not hand instruments, should be used for telephone appointments.

(28) There should be separate telephone lines for patients to use for cancellations, so that they can rapidly access the CAS clerks, to free up the cancelled time for other patients, and cut down the no-show rate. Another separate line should be available for long-distance calls. Different-colored buttons for these lines should be considered, as should a WATS toll-free line. (See AR 1-17: "Make special provisions for service to citizens in remote areas".)

(29) There should be some time on each doctor's schedule for him to see walk-ins, perform certain procedures peculiar to his specialty, etc. This must be adequately controlled by clinic and service chiefs, however.

(30) Each doctor or other health care provider should be provided with his own copy of his daily appointment list.

(31) Every CAS with over four in-coming lines should have Call Directors rather than regular 5-key telephone instruments.

(32) Every CAS should have an "Electronic Secretary" for announcements after duty hours, and for recording cancellations during and after duty hours.

(33) All elements of the hospital that schedule extra-clinic duties for health care providers—such as preparer of AOD roster for optometrists and gas chamber exercise for physicians—should provide schedules far enough in advance that appointments are not compromised.

(34) CAS offices should be unmarked and off-limits to patients; its very location should be revealed only to those (physicians, etc.) who have a need-to-know.

(35) Seek to have appointment schedules at least two months in advance, with the next week added each week.

(36) Appointments should be made by individual doctor, not by clinic, or by blocks of patients.

(37) CAS clerks should be carefully trained by doctors in each clinic as to what questions to ask patients. These questions should be developed by the doctors themselves, so as to insure their adequacy and correctness, and to foster a feeling by the doctors that they are controlling the appointment-making process (which they are).

(38) Develop a form for doctors to give patients for follow-up purposes, indicating the approximate day (or range) desired, with authority to over-book if necessary.

(39) Attempt to have the CAS office within the hospital building, so that doctors will have easier access to it (to answer questions, remove misunderstandings, inform the clerks of policy changes, look at their future appointments, and gain a better understanding of the operation of the CAS).

(40) Attempt to have computer and other data-processing support, with utilization of a punched-card system if possible.

(41) Schedule procedures (e.g., proctoscopies) as well as regular appointments via the CAS.

(42) Patients with appointments should be given precedence over walk-in patients in the clinics.

(43) Self-referral by patients to specialty clinics should be encouraged, especially if there is a known problem. CAS clerks can help screen and guide patients for this purpose, if properly trained by clinic personnel.

(44) If telephone traffic monitors or patient complaints indicate an excessive number of busy signals on the CAS telephone system (over 6%), the CAS should be staffed up to its maximum capacity, as indicated. To do this there must be adequate back-up of trained clerks to allow for illness and leave. When this is done consistently, and there are still too many busy signals and lost calls, then more trunks and positions are indicated.

(45) The status of the CAS needs to be monitored by the Chief of Clinics, the Chief of Professional Services, and by the hospital commander. Reports that should be produced by the CAS to facilitate this should include:

(a) Appointment backlog, by clinic.

(b) Workload, in terms of number of telephone calls, number of appointment calls, and number of appointments made.

(c) Lost calls, ATB (all trunks busy) time, and other telephone traffic data.

(d) Number of clerks on duty and answering telephones on wheel each day.

(e) No-show and cancellation rates.

(46) Arrange for installation of "music-on-hold" feature.

(47) There is a need to educate patients more thoroughly about the CAS. Consider:

(a) Patients need to be constantly reminded to make appointments, and not just walk in (a lower incidence of busy signals on the CAS phones would help).

(b) An ACDS needs to be explained. People should understand that, while there is only one phone number, there are 5 (or 6, or 8, or 10) phones actually in use at the CAS. Pictures of this in local news media would help.

(c) Our patients need to understand why the CAS clerks need to know something about a patient's illness, so that the most appropriate appointment can be made. Many of them appear to believe that these girls are mere "telephone operators". They should be told that they are far more than that, and that they have been thoroughly trained by physicians. Perhaps the CAS clerks could also preface the clinical questions to patients by something like "In order to make the best appointment for you, the doctor has requested that I get certain medical information...".

(d) Provide a constant supply of information brochures about the constantly changing population we serve. Perhaps some appointment slips (blank DA Forms 8-97) could be included or bound into these booklets, with refills easily available, thus encouraging patients to keep them near their phones, to fill in when each appointment is made. Hopefully, this would cut down the no-show rate.

(48) Clinics should seriously consider authorizing the CAS clerks to overbook if they expect patients to come back when they wish to see them, especially if it is within a week or so.

(49) Members of the medical staff should be encouraged to talk to the CAS staff, to visit them, to have classes with them, and do everything possible to create a true team operation.

(50) Consider allowing the CAS clerks to make some judgments about how long an individual patient may take, and either overbook, or give an extra appointment interval or two, if it sounds appropriate to do so. This will require careful training by clinic physicians.

(51) Appointment cards or forms should contain the following minimum information:

- (a) Doctor's schedule.
- (b) Patient's name and grade (or Mrs. or Miss to be used in addressing patient).
- (c) Patient's terminal digit file number.
- (d) Patient's telephone number during the day.
- (e) Notation as to the year of the last visit.
- (f) Notation as to whether the x-ray film file is to be made available.
- (g) Length of time of appointment, if not pre-printed.
- (h) Date and time of appointment.
- (i) Name of the clinic.

(Other information will be needed if the form is to be used to prepare the Outpatient Report.)

(52) Annotated appointment lists from the clinics should be

returned to the CAS so that reports of no-show and late cancellations can be made.

(53) Incoming calls to a CAS should have no audible signal.

(54) Appointment clerks should be at least a pay grade GS-5 (See AR 1-17: "Select persons with the appropriate aptitudes for assignment to positions with responsibility for dealing directly with the public.").

(55) The appointment books should be closed at the very last moment, preferably the afternoon of the day prior to the appointment day. Medical records and x-ray files should be pulled the night before. Appointments made after the books are closed can be telephoned to the clinics.

(56) Every effort should be made to reduce appointment backlogs to provide more appointments; consider such measures as longer clinic hours, more clinic sessions per week, reallocation of professional resources, use of TDY personnel, use of military consultants, purchase of civilian resources, and use of CHAMPUS.

(57) Department and service chiefs should exercise some control of doctors' ability to change their clinic availability schedules at will.

(58) Doctors must arrive promptly at start of each clinic session if the appointment system is to work well.

(59) When new CAS offices are organized, full-time appointment clerks in individual clinics can be considered for incorporation in the CAS; if there are not enough of such individuals, new positions should be established.

(60) SF 513 should be modified to include the phrase "priority within days". Until this is done, local forms indicating the priority of an appointment should be used by doctors referring patients or making their own reappointments. The patients would use these forms when calling the CAS.

(61) CAS clerks should receive training in telephone courtesy and techniques. Local commercial telephone company representatives should be contacted for this.

(62) There should be an adequate listing for the CAS in post and local community telephone directories, in both the white and yellow pages.

(63) Switching keys should be provided for those clinics that wish to use the CAS as a telephone answering service during hours they are not open.

(64) The following clinics, although not now known to be on any CAS, should be placed on the CAS to the maximum extent possible at one hospital as a pilot study to verify the theoretical feasibility of such a move:

- (a) Dental
- (b) Psychiatry
- (c) Social Work
- (d) Radiotherapy

(65) The following clinics should not be placed on the CAS:

- (a) Physical Therapy
- (b) Occupational Therapy
- (c) Inhalation Therapy
- (d) Emergency Clinic
- (e) Immunization
- (f) Diagnostic Radiology

(66) Troop Medical Clinics should not be placed on the CAS until completion of the Sick Call Scheduling Study by the Health Care Research Division.

(67) All the remaining clinics in a hospital should be placed on the CAS.

(68) The CAS should be broken out as a separate section in DA Pam 616-557 (AMEDD Staffing Guide).

(69) Each hospital commander and each level of hospital management should actively support the CAS concept.

(70) At one pilot hospital the CAS should be transferred to the direct control of the Chief of Professional Services to determine if the CAS gains more administrative and professional support and cooperation.

(71) A study should be done to determine if the use of mark-sense cards and optical character reader will simplify and speed up a punched-card CAS operation by eliminating the key-punching operation.

(72) A Seminar on CAS operations should be held at one of the Army hospitals that has a CAS, to which should be invited the CAS supervisors of all Army hospitals CONUS.

(73) The Health Care Research Division should be given the mission of developing an on-line, real-time computerized central appointment system in an Army hospital, as described by Hoffman, et al.⁶. Jessiman, et al.⁸, Bergman and Steffey¹⁴, Cronkite¹⁵, and Daechse¹³⁷. It is believed that an on-line computer can greatly improve the scheduling of clinic visits, especially in a large hospital.

Section IX - References

1. Stuart, R.B., et al, ed., Proceedings of the Seminar on Ambulatory Health Services, Brooke Army Medical Center, 8-12 November 1971, pp. 124, 135-145, 148-149.
2. Office of the Surgeon General, Memorandum No. 40-2, "Medical Services: Coordinated Plan of Improvement Actions in Ambulatory Care", Appendix, para 6c, 5 June 1972.
3. Comptroller of the Army, "Analysis of CONUS Outpatient Care Systems (COCAS)", presented to the Chief of Staff of the Army 2 June 1972.
4. "Minutes - Multi-Directorate Health Care Research Advisory Board Meeting", TAB A to Inclosure 4, 14 July 1972.
5. Letter, Office The Surgeon General, DASG-DDD-H, subject: "Improvement of Outpatient Health Care", dated 29 August 1972.
6. Hoffman, Paul B., Rockart, John F., and Barnett, G. Octo, "Planning for an Automated Clinic Appointment System", Hospital Topics 48: 37, 40, 42, 62, October 1970.
7. Holston, Charles A. "Central Appointment System for Outpatient Clinics", Hospital Management 104: 65-70, October 1967.
8. Jessiman, Andrew G., and Erat, Kathryn, "Automated Appointment System to Facilitate Medical-Care Management", Medical Care 8: 234-246, May-June 1970.
9. Johnson, Walker C. and Rosenfeld, Leonard S., "Factors Affecting Waiting Time in Ambulatory Care Services", Health Services Research 3: 286-295, Winter 1968.
10. Mitchell, Michael B., and Gantreau, Faith, "Appointment Scheduling", Hospitals 44: 58-59, 1 June 1970.
11. Plunkett, Daniel C., "Military Pediatric Outpatient Care: Report of Experiences in a Large Army Hospital", Military Medicine 132: 711-715, August 1966.
12. Rosenfeld, Leonard S., Ambulatory Care: Planning and Organization, Health and Hospital Planning Council of Southern New York, Inc., New York: 1971.
13. Ibid., p. II-60.

14. Bergman, John H., and Steffey, David L., "Data Processing Improves Outpatient Management", Hospitals 43: 49-51, 1 January 1969.
15. Cronkite, Leonard W., "Computer Brings Order to Clinic Scheduling System", Hospitals 43: 55-57, 16 April 1969.
16. Paulson, Isabel S. "A Mechanized Appointment System for Outpatient Clinics", Hospitals 40: 80-88, 16 September 1966.
17. Elizondo, Raymundo, "A Study of the Appointment System in the Outpatient Department of Martin Army Hospital, Fort Benning, Georgia", mimeographed, a problem-solving thesis submitted to the faculty of Baylor University in partial fulfillment of the requirements for the degree of master of hospital administration, August 1971.
18. Plunkett, "Military Pediatric Outpatient Care", p. 714.
19. Rosenfeld, Ambulatory Care, p. VIII-74.
20. Williams, Greer, "Kaiser: What is it? How does it Work? Why does it Work?", Modern Hospital 116: 85, 1971.
21. Rosenblut, Alan; Jonas, Steven; Wassertheil, Sylvia; and Meyer, Sylvia, "OPD Waiting Time Reduced by use of Individual Appointment System", Hospital Topics 50: 48-52, March 1972.
22. Soriano, Abraham, "A Comparative Study of Block and Individual Appointment Systems in the Outpatient Department, Wilmer Ophthalmological Clinic", Abstracts of Hospital Management Studies Microfilm Reel 1.16, 1964.
23. _____, "Comparison of Two Scheduling Systems, Operations Research 14: 388-397, May-June 1966.
24. Alpert, Joel J. "Broken Appointments", Pediatrics 34: 127-132, July 1964.
25. Walsh, John J.; Benton, Jess L. Jr.; and Arnold, Iola G., "Why Patients Break Appointments", Hospital Topics 45: 67-70, February 1967.
26. Shmark, K.L., "Reduce Your Broken Appointment Rate: How one Children and Youth Project Reduced its Broken Appointment Rate". American Journal of Public Health 61: 2400-2404, December 1971.

27. "Research Report: A Systems Study of the Central Appointment System at Walter Reed General Hospital" by Peter J. Vanderzee, accomplished as part of the Army Materiel Command Production Design Engineering Graduate Program, AMC Intern Training Center, and presented in partial fulfillment of the requirements for the degree of Master of Engineering, Texas A & M University, 1972.
28. Doble, Henry P. Jr. "Streamlining Walter Reed's Central Appointment System", Hospital Topics 42: 41-46, October 1964.
29. Vanderzee, Research Report, p. 41.
30. Constable, Joseph F. "An Analysis of the Mechanized Central Appointment System at Fitzsimons General Hospital, Denver, Colorado", (photocopy), a problem-solving theses submitted to the faculty of Baylor University in partial fulfillment of the requirements for the degree of master of hospital administration, Waco, TX, August 1972.
31. Constable, ibid., p. 48.
32. U.S. Government Authorized Federal Supply Schedule Price List, FSC Group 74, Part IV, Class 7460, Contract No. GS-00S-14491, period 1 Oct 72 through 30 Sep 73, Sec. 3, page 2.
33. Engineering Survey, USAF Southern Communications Area, Subject: Telecommunications Study, 12 August 1971.
34. Headquarters, Department of the Army, Army Regulation 1-17, "Communications with and Service to the Public", 18 December 1972.
35. Department of Defense, "Space Planning Criteria--Department of Clinics", 12 September 1972 (draft).
36. Wassertheil, S., and Meyer, S., "OPD Waiting Time Reduced by use of Individual Appointment System", Hospital Topics 50: 48-52, March 1972.
37. Daechsel, Werner F.O. "General Hospital Scheduling", Hospital Administration 17: 35-42, Fall 1972.

APPENDICES

APPENDIX 1
Computerized Appointment Systems

1. Denver General Hospital (DGH), Denver, CO, was visited on 20 September 1972. The DGH system utilizes two parallel systems: a manual system of looseleaf appointment books, and a real-time on-line computer. The model of the computer is unknown, but the terminals are Hazeltine model 2000, with cathode ray tube output and typewriter input at the CAS station. A printout of appointments is produced in the "computer room" elsewhere. The CAS is now sharing the computer with the rest of the hospital, so it is often not on-line (it may be down for up to half an hour, so the manual paper system is still used also). The CAS is to shortly get its own dedicated computer. Patients now make appointments by telephone and by walking up to the CAS section in person. In the new system it will be isolated from the public and make appointments only by telephone. The CAS has been in operation since Jan 1970, and has had the computer for about one year.

2. Peter Bent Brigham Hospital (PBBH), 721 Huntington Ave., Boston, MA, was visited on 25 September 1972. Persons contacted were:

Andrew G. Jessiman, MD, Associate Director of Professional Services
Miss Kathryn Erat, Systems Analyst
Mr. Dillon, Asst. Chief, Medical Records
Mrs. Ann Connell, Supervisor, Central Appointment System
Miss Long, Head Nurse, Medical Clinic

a. The Peter Bent Brigham Hospital is a 320-bed general hospital serving the adult population of the Boston area. It organized a paper-based centralized outpatient appointment system in 1961, and began to develop plans for automation with the aid of a Public Health Service grant in 1964. The automated CAS, which uses a commercial on-line, real-time computer system (Keydata Corporation), went operational in 1968. A discussion of the limitations of a paper-based system, and the details of the computerized system, are in an article published in Medical Care (Vol 8, May-June 1970, pp. 234-246). The computer file contains doctors' and clinics' schedules for future dates, and individual patient identification records. The article referred to describes the output as being printed by teletypewriter. Since the article was published, PBBH now has two cathode ray tube (CRT) output devices, (Data Point 3000, by Computer Terminal Corporation) with keyboard entry, in addition to two teletypewriters. Therefore, now the appointment-making is handled on the very much quieter CRTs. However, the teletypewriters (one

GE Termi-Net 300, at 30 characters per second, and one Bell Telephone Teletype, at 15 characters per second) are still used to produce printed appointment lists, medical record charge-out slips (on special perforated paper), appointment reminder post cards, and certain reports.

b. The CRT displays four openings for a doctor on the day of week desired up to three months in advance. The one the patient desires is then chosen and entered via the CRT keyboard. The high-speed printer prints out daily the list of appointments for each doctor for the next day, and for that same day of the week for the next four weeks. Thus, the doctors can see their forecasted workload, as of that day, for the next month.

c. It should be noted that nurse clinicians are also employed by PBBH, and they are also scheduled via the CAS--for one hour appointments.

d. Appointments are made both in person and by telephone. There are two walk-up windows for the public. A third person (the supervisor) can also handle walk-up patients by leaning over the shoulder of one of the two seated clerks. Both the clerks and the supervisor wear long white coats.

e. Not all of the clinics are on the automated system. The following are not: Surgical, ENT, Renal, Neurology Procedures, Dental, and Physical Therapy Clinics. Reasons given were:

(1) Surgical: large volume of "merely" postoperative follow-ups and suture removal; too expensive to put on CAS.

(2) ENT: mostly acute ear and throat illnesses.

(3) Renal: no reason--will go on CAS soon.

(4) Neurology Procedures: doctor not seen in this clinic; the clinic that has neurologists is on the CAS.

(5) Dental: "just" extractions.

(6) Physical Therapy: mainly inpatient appointments.

f. The clinics not on the automated CAS are handled as follows: doctors' and clinics' available appointments are kept in a rotary file (an old Victor Model). Appointments are entered on 3- or 4- part forms (see Inclosure for 3- part form). A fourth part is used for x-ray file requests, or for mail-out appointments.

g. Dr. Jessiman stated that the cost of the computerized system is about \$0.65 to \$0.75 per appointment. Although this is considered to be "excessively expensive", he feels that it is somewhat offset by the following advantages of the computerized CAS:

(1) It is very much faster than a paper-based CAS, thus saving time for both patients and staff; hence, it is more efficient.

(2) It is absolutely accurate, with respect to patients' names and hospital registration numbers (stored in the computer memory).

(3) It automatically prints out the requests for medical records, and the printout form is used as a charge-out document.

(4) It automatically generates postcard reminders that are mailed to patients two weeks before their appointment. This procedure is believed to be responsible for a decrease in the no-show rate from a former figure of 30 percent to 17 percent for the Medical Clinic in June 1972.

3. The Systems and Data Processing Division, The Lahey Clinic Foundation (LC), 654 Beacon St., Boston, MA, was visited on 26 Sep 1972. Person contacted:

Mr. Richard C. Harrison, Director, Systems and Data Processing

a. LC has had a centralized appointment system for at least 10 years; automation began in 1968. It is now a combination of an automated system and a paper system. It currently makes appointments for about 90 physicians, and for some 30 laboratory tests. The CAS is called the Appointment Office. The staff of 28 clerks making appointments are divided into four groups of 7 each: one group leader, five "appointment coordinators", and one data entry clerk. Appointments are made by telephone or by mail. When a patient calls for an appointment, the appointment coordinator (AC) who answers uses a CRT to call up the patient's previously stored computer file (name, address, register number, telephone number, LC physician, etc., plus all currently scheduled or cancelled appointments). She then determines the doctor's availability by getting up from her chair and checking schedules maintained on large VISIrecord cards in bins behind her. When a suitable time is arrived at, it is entered on an appointment scheduling form (Inclosure 2). This information is entered into the computer later by the data entry clerk using another CRT (one per group).

b. The doctor's schedules are computer-printed onto the VISIrecord cards monthly. These schedules are developed from a Doctor Master Schedule (Inclosure 3) that depicts the different variations of a doctor's day, which are coded, and can be changed as needed by the doctor. From the Doctor Master Schedule a monthly schedule is prepared that shows which variation is applicable for each working day.

c. One chronic problem faced by the LC Appointment Office has been peak telephone call workloads during certain hours on certain days (like Monday mornings). An innovation to try to solve this

without overstaffing all the time has been an experiment in which four part-time clerks were hired to take the overflow calls in the evening. Patients who called during the day were told by an ACDS recording device that all lines were busy, and would they please call back after five o'clock in the evening? About half of these individuals would call back, as determined from the Lost Call Register on the ACDS. Now a staff of six to eight ACs is present from 1700 to 1900 to take these calls.

e. It should be noted that about one-quarter of the appointments are over-booked, in that more than one patient is scheduled per time slot. This is done in coordination with the physician (via the group leader) if he feels the patients scheduled won't take up all the time allotted.

f. Another interesting innovation is the use of medical history questionnaires that are mailed out to new patients before their appointments. The questionnaire is then scored, with totals in various specialty areas (gastroenterology, cardiology, etc.). The patient is then booked with a specialist whose area has the highest score, with a consult to a specialist whose area has the second highest score. Thus, it is an aid to screening by the AC. This approach is only experimental, and has not yet been formally adopted.

4. The Children's Hospital Medical Center (CHMC), 300 Longwood Ave., Boston, MA, was visited on 26 Sep 72. Individual contacted:

Mr. James Shruhan, Manager, Data Center CHMC.

a. An article published in Hospitals in 1969 (Vol. 43, 16 Apr 1969, pp 55-57), contains details of their computerized appointment system. In contrast to PBBH and LC, CHMC's system is not centralized. Rather, 15 CRTs with keyboard input are located throughout a 11-story clinic building, as follows:

Emergency Room.....	2
Clinics on 2d, 3d, 4th, 5th, 6th, and 10th floors..	6
Reception area.....	2
Outpatient admitting area.....	1
Medical Records.....	1
Inpatient accounting office.....	1
Computer room.....	1
TOTAL	15

The Hospitals article stated that a clerk in any clinic could make appointments via the CRT with any other clinic. This has been changed, reportedly since it was very difficult for the doctors to forecast their schedules over two weeks in advance. Now, clinic secretaries

make appointments only in their own clinics, with the exception of the Emergency Room, which can book appointments into the Medical Return Clinic, Surgical Follow-up Clinic, and Medical "Continuity" Clinic.

b. The clinic scheduling system consists of 10 functions: patient record creation, clinic appointment scheduling, clinic appointment cancellations, patient check-in, medical record requests, patient record updating, patient notes updating, alteration in clinic schedule, clinic session cancellations, and inquiry. To make an appointment, the clinic clerk goes to the CRT and calls up the clinic session schedule, listing the number of openings by date. The date desired is then displayed, showing the time slots that are open (all clinics use a modified block system, not appointments by individual doctor, although the system would permit it if desired). The next five appointments the patient has are also displayed, so that the new appointment could be combined with an existing one, if desired. Special instructions can also be added, such as "earcheck", or "x-ray needed". One appointment time is selected, a "transmit" button is pressed, and the CRT displays "OK" as the appointment is entered. To cancel an appointment, the reverse procedure is followed.

c. It is also possible to call up a Clinic Admission File for each patient, showing such items of information as appointments fiscal-year-to-date, the last "Did Not Keep" appointment, the last appointment, and the next appointment.

d. As of January 1972, 50 specialties in 71 clinics were being scheduled on the system. In addition, record keeping and statistics were being kept for an additional 16 clinics.

e. The CHMC staff have concluded that this system is not cost-effective; however, since the CHMC is quite used to it, it would be extremely disruptive to remove it. Therefore, it will stay. The staff feels that the current CHMC yearly workload of 120,000 outpatient visits a year is not large enough to sustain it. A workload of 150,000—300,000 visits per year would probably be necessary before it would be cost-effective.

5. The following section lists and compares certain elements common to most of the appointment systems studied. Because it is decentralized, the CHMC system shares fewer elements with the others. As before, PBBH = Peter Bent Brigham Hospital; LC = The Lahey Clinic; DGH = Denver General Hospital; and CHMC = Children's Hospital Medical Center.

a. Outpatient visits per month:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
Unk.	6,200	14,300	10,000

b. Outpatient visits appointed per month:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
Unk.	5,270 (85%) (est.)	14,100 (98%)	8,800 (88%) (From Feb 71 study 12% walk-ins)

c. Number of clinics or services served by appt. system:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
60 (98.3%)	28 (76%)	Unk. (All)	71 (81%)

d. Number of clinics not on appt. system:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
1 (OB-GYN)	9 (Incl. 4)	None	16

e. Number of calls handled by appt. system per day: Unknown

f. Number of appointment calls handled by appt. system per day:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
700-800 (many in-person appts)	Unk. (many in-person appts)	500-700 (1000 appts; many patients have more than one per call)	Unk.

g. Length of average call: unknown

h. No-show rate:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
Unk.	13-20%	5%	30%

i. Cancellation rate:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
Unk.	20%	20%	8% (Clinics and ER terminals only)

j. Total number of phone lines available for CAS:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
5	5 (2 direct outside lines; 2 via PBBH switchboard, 1 intercom to screening clinic)	15 (10 direct outside lines; 5 via LC switchboard)	Unk.

k. Rotary vs. ACDS:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
Unk.	Rotary	ACDS	N/A

l. Number of lines on rotary or ACDS:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
Unk.	2	10	N/A

m. Hours of operation:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
24 hrs. a day	0830-2100, M-F (only 1 clerk 1700-2100)	0730-1900, Mon & Tues. 0730-1800, Weds-Fri.	ER: 0300-2400, 7 days a week Gen. Clinic System: 0830-1700, M-F

n. Appointment system personnel actually assigned:

	<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
Supervisor	1	1	1	N/A
Group Leader			4	
Appt. clerks (full-time)	10	3	20	
Appt. clerks (part-time)		(2)	(8)	
Other			10	
TOTALS (full-time)	TT	4	35	
TOTALS (incl. part-time)		6	43	

o. Number of appointments handled per active clerk per day (no. appts. per day/no. clerks, exclusive of supervisors)

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
Unk.	440/3 = 147	1000/20 = 50	$\frac{(8800 \text{ appts. per mo.})}{22 \text{ working days per mo.}} = 400 \text{ appt. day}$
			$\frac{400 \text{ appts. per day}}{8 \text{ clinic terminals}} = 50 \text{ appts. per terminal}$

p. Number of doctors served by appointment system:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
Unk.	160 (+10 nurse clinicians)	90 (+30 laboratory tests)	Unk.

q. Number of doctors served by each appointment clerk:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
Unk.	53 (57 if include nurse clinicians)	4.5 (6, if include tests) (20 clerks)	Unk.

r. Maximum time in advance appointments can be made:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
2-4 months	3 months	3 months	2 weeks (computer capacity is up to one year; depends on number of individual clinic sessions per week)

s. Latest time appointments can be made:

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
Unk.	Same day (relayed to clinic by phone) (Med. records requested 3 days in adv.)	Same day (relayed by phone)	Unk.

t. How are long-lead-time appointments handled?

<u>DGH</u>	<u>PBBH</u>	<u>LC</u>	<u>CHMC</u>
Unk.	By special file; reviewed daily for those desiring appts. for clinic schedules just becoming available.	Unk.	Unk.

u. Appointment file equipment:

(1) DGH: CRTs, plus parallel notebooks for each clinic stacked on tables in each cubicle (open to public).

(2) PBBH:

(a) See paragraph 2a, above. Cost: \$0.65 to \$0.75 per appointment. The CRTs are much quieter than the teletypes. However high speed printers are still necessary. Production of hard copy (schedules, reports, medical record charge-out cards) is essential.

(b) The non-computerized portion of the system used a rotary Kardex file similar to Bethesda Naval Hospital's (BNH's). This unit was made by Victor (now out of business) some 12 years ago. There are 25 sections, each with 62 leaves on each side. Thus, capacity = $25 \times 62 \times 2 = 3100$ appointments. Cost: \$25 per section, or \$625.

(3) LC: The computer system used in an IBM 360/40, with standard CRTs with keyboards as input/output devices. Cost: unknown. It was planned to replace this by December 1972 with an IBM 370/135, with a Virtual Operating System, in order to fully automate the doctors' schedules. The doctors' schedules were kept in Sep 72 on VISIrecord cards in metal tubs.

(4) CHMC: A Honeywell H-1200 computer is used. Capacity of core: 81K. A duplicate computer, used for administrative and accounting purposes, provides back up in the event of failure (rare). Input/output device is a CRT with keyboard input. Cost per booked appointment: \$1.58.

v. Telecommunications:

(1) DGH: Regular key telephone system.

(2) PBBH: The CAS staff seems satisfied with the telephone system. Regular key-system telephone instruments are used. No data was available on no-circuit time.

(3) LC: A complete Automatic Call Distribution System is used. A monitoring console shows waiting calls (white lights), as well as lights for calls being handled. A Lost Call Meter keeps track of disconnects. There is also a meter for the number of calls handled by each appointment coordinator's console. (It is not actually used.) Each AO's console has a handset. New equipment is being ordered that will have headsets. Each group leader has a more elaborate console, with more buttons.

(4) CHMC: No special characteristics; not centralized.

w. Clinics' and doctors' SOP files:

(1) DGH: Filed in a big book, and kept locked up.

(2) PBBH: keeps much of this on the computer. For example, at the bottom of the CRT screen might appear "Keep Tuesday light"—i.e., don't over-book "very much". Some of the doctors authorize over-booking others never do. Some information, especially doctors' telephone numbers, is kept on card files made by Zephyr-American Corp.

(3) LC: kept in computer file, and printed out on VISIrecord cards.

(4) CHMC: kept in each clinic.

x. Liaison with doctors and clinics:

(1) PBBH: Personal visits by CAS supervisor are used. If there is a persistent problem, a meeting is held with the CAS supervisor, clinic representatives, and the Director of Ambulatory Clinics (who is also the Assistant Director of the Hospital). One problem is getting doctors to the clinic sessions on time. Solution: Dr. Jessiman started holding a half-hour educational session at the beginning of every clinic—it may deal with such subjects as medical matters, health care administration, the CAS, etc. The physicians then started arriving on time.

(2) LC: Handled by group leaders.

(3) DGH and CHMC: unknown.

y. Reports generated, aside from lists of appointments, by name and number:

(1) PBBH:

(a) The CAS generates a daily clinic appointment summary for the chief of the nursing service, for clinic staffing purposes.

(b) Individual clinics also generate monthly reports about appointments and visits:

1. Clinic statistics, by session.
2. Session statistics, by doctor.
3. Patients seen per week, by category of house staff.
4. Patients scheduled vs. patients seen, by number of patients seen per week.

(2) LC:

(a) Cancellation List.

- (b) Doctor Appointment Availability Report, by clinic.
 - (c) Doctor Appointment Availability Report, for entire Lahey Clinic.
 - (d) Appointment Trend for the Clinic (daily): Old backlog (up to 3 mo. in advance) + appointments made that day—appointments kept that day—cancellation = new backlog (with percentage gain or loss).
- (3) CHMC: Clinic Statistics Detail Report. The following data is provided, by clinic:
- (a) Number of appointments made, cancelled, and kept.
 - (b) Number of kept appointments which were new or old patients.
 - (c) Referral source of new patients.
 - (d) Percentage of appointments that were not kept.
- (4) DGH: Unknown.

z. Methods of changing doctors' schedules:

- (1) PBBH: Doctors cannot cancel appointments after 3 weeks prior to the appointment date. All of the doctors are paid to attend the clinic, and so they "must observe the rules" (Dr. Jessiman). Medical Clinic physicians, to be absent, must forward a written request through their Session Director 3 weeks in advance.
- (2) LC: A written request must be submitted two months in advance.
- (3) CHMC: Unknown (presumably different rules for each clinic).
- (4) DGH: Changes simply not made, since doctors must go through their department head.

aa. Physical facilities:

- (1) DGH: Individual cubicles open to the public along a common counter in the main lobby.
- (2) PBBH: The CAS room approximately 15 ft. X 20 ft. The room is crowded, and only two people can have convenient access to

the windows at one time. The one window has curtains. The floor is fully carpeted. There are no pictures on the walls. It is rather noisy, especially with the teletype printers running.

(3) LC: The CAS room, which includes all of the Systems and Data Processing Division staff, is in an L-shaped room, with appointment coordinators along workcounters with the CRTs in front of them, and double rows of doctors' schedule bins in the middle of the room behind them.

(4) CHMC: N/A (decentralized).

bb. Physicians' attitudes:

(1) DGH: Unknown.

(2) PBBH: The medical staff is reportedly "very receptive" to the CAS, although some do sometimes complain of too many patients having been scheduled for them. The recent generation of data on patients seen per doctor gives clinic session directors objective data with which to deal with the complainers (who often apparently are actually seeing fewer than other doctors). Dr. Jessiman says that clinic procedures are set up primarily to serve the patient; when they are changed to suit the doctor, the patient suffers.

(3) LC: Unknown.

(4) CHMC: According to Mr. Shruhan, manager of the Data Center, "some like it and some don't". There was reportedly great resistance from the staff at first, but (presumably since it is more decentralized) there is not so much now.

cc. Staff recommendations for change:

(1) DGH: Computer dedicated to the CAS; eliminate in-person appointments.

(2) PBBH:

(a) Include "flagging procedures" in computer file, such as alerting clinic staff to need of certain patients for stretcher, wheelchair, nurse attendant, etc. Also, alerting staff to need of patients for yearly x-rays, sigmoidoscopies, etc.

(b) Computerization of index of basic data on all patients.

(c) Computerization of entire medical record, in problem-oriented format (especially useful for 60 percent of PBBH patients)

that have multiple diagnoses).

(3) LC:

(a) Increase computer capacity and speed so all of doctors' schedules can be brought on-line, in real-time mode.

(b) High-speed printer in Appointment Office.

(c) Headphones for appointment coordinators.

(4) CHMC:

(a) It would have been most desirable if a good data base had been collected before the computerized system was installed. There has thus been nothing to compare the new system with, as far as evaluating its effectiveness and efficiency.

(b) Merging the now separate Bed Utilization System and the Clinic Scheduling System.

(c) Inclusion of more medical data in the file, such as allergies and prior diagnoses.

PETER BENT BRIGHAM HOSPITAL — CLINIC APPOINTMENT

DR. _____

CLINIC _____

DATE _____

APPOINTMENT
OFFICE
TEL. NO.
232-6910

FORM 110

TIME _____

1st page

PETER BENT BRIGHAM HOSPITAL — CLINIC REFERRAL

RETURN APPT

- | | |
|---|--|
| 1. REGULAR VISIT <input type="checkbox"/> | 4. REPORTS OR CHECK VISIT <input type="checkbox"/> |
| 2. MEDICAL 60 <input type="checkbox"/> | 5. PRE-CLINIC X-RAY <input type="checkbox"/> |
| 3. SURGICAL 30 <input type="checkbox"/> | 6. CONSULT WITH _____ |

MUST BE SEEN IN TIME SPECIFIED ☐ YES ☐ NO

MAY BE DOUBLEBOOKED ☐ YES ☐ NO

DR. _____

CLINIC _____

DATE _____

APPOINTMENT
OFFICE
TEL. NO.
232-6910

FORM 110

TIME _____

2nd page

PETER BENT BRIGHAM HOSPITAL — CHART REQUEST

(Forward to Record Room 48 hrs. prior to Clinic)

DR. _____

CLINIC _____

DATE _____

APPOINTMENT
OFFICE
TEL. NO.
232-6910

FORM 110

TIME _____

1-14

3rd page

Inclosure 1 to App. 1
PBBH- Appointment
Slips

Date: 77 Secretary Number: 03 Code (circle one): I - Inside Call L - Letter
O - Outside Call A - A/Card
Caller: _____ C - Correction F - Form
R - R/System

Clinic No: 8403154

Last Visit: _____

Mr. Mrs. Miss
Mr. Mrs. Miss
Mr. Mrs. Miss
(Street/Number)

E Patchogue LI 11772
(City/Town and State) (Zip)

Mr. Mrs. Miss
(Home Telephone)

(Business Telephone)

(Former Name)

(Former Address)

(Referring Physician)

M. D.

(Telephone)

(Street/Number)

(City/Town and State)

(Zip)

Chief Complaint and Past History

General physical
P in left side
Chest just
above stomach
tingling of
arms

Appointments

Day	Date	Time	Doctor	Type
Wed	7/12	8:00	Soud	A3
Thurs	7/13	10:30	Wngre	
Fri	7/14	11:15	Soud	B1

Green Slip:

Prospective:

Change of Status Form:

Comp. Case:

Ins. Case:

Hospital Reservation:

Date:

Baptist Brooks Deaconess Hahnemann PHMC

Type of Bed:

Inclosure 2 to App! Ward Semiprivate Private

1-15

DATE 9/20/72

LAHEY CLINIC FOUNDATION APPOINTMENT OFFICE

MONTH DR. J

DOCTOR MASTER SCHEDULE

TIME	STANDARD SCHEDULE				VARIATION # 1				VARIATION # 2				VARIATION # 3				VARIATION				
	PT	SEQUENCE	NO	APPT. TYPE	Week of Month 1 2 3 4 5 Day of Week M T W T F	Week of Month 1 2 3 4 5 Day of Week M T W T F	Week of Month 1 2 3 4 5 Day of Week M T W T F	Week of Month 1 2 3 4 5 Day of Week M T W T F	Week of Month 1 2 3 4 5 Day of Week M T W T F	PT	SEQUENCE	NO	APPT. TYPE	Week of Month 1 2 3 4 5 Day of Week M T W T F	Week of Month 1 2 3 4 5 Day of Week M T W T F	PT	SEQUENCE	NO	APPT. TYPE	Week of Month 1 2 3 4 5 Day of Week M T W T F	
7:30	1	A	Executive Exam							1	A	Executive Exam					1	A	Executive Exam		
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Inclosure 4 to App. 1

Clinics not on Automated Appointment System

PBB H

General Surgery

Emergency Room

Screening

Renal

Neurology (procedures)

Physical Therapy

ENT

Dental

Alcoholism

9

LC

N/A

CHMC

16 (names unknown)

Inclosure 4 to App. 1

APPENDIX 2
PATIENT
QUESTIONNAIRE

The Army Medical Department is conducting a study of centralized outpatient appointment systems. (A centralized (or central) outpatient appointment system is one in which a group of clerks in one location make appointments for a number of clinics, usually by telephone.) Please take a moment to answer a few questions about your experience with the appointment system at this hospital.

INSTRUCTIONS: Please check the appropriate answer to each question in the blanks provided.

1. Have you made any appointments through the central appointment system at this hospital?

- _____ a. Yes.
_____ b. No.
_____ c. Don't know.

If your answer was a, please go on to question 2. If your answer was b or c, you do not need to complete the rest of the questionnaire.

2. Do you believe the central appointment system is generally convenient for you?

- _____ a. Yes.
_____ b. No.
_____ c. Not sure.

3. When you call the central appointment telephone number to make appointments what usually happens?

- _____ a. I usually get an appointment clerk right away.
_____ b. I usually get a recording, but a clerk answers promptly.
_____ c. I usually get a recording, and have to wait on the phone quite some time, but a clerk finally answers.
_____ d. I usually get a busy signal.
_____ e. I get some other response (please describe _____.)
_____.)

4. Did the doctor have your medical record when you saw him today?

- ☐ a. Yes.
- ☐ b. No, it had to be tracked down.
- ☐ c. No, and it could not be located.

5. Did the doctor already have your x-ray file when you saw him today?

- ☐ a. Yes.
- ☐ b. No, it had to be tracked down.
- ☐ c. No, and it could not be located.
- ☐ d. Not applicable: no x-rays were needed or requested for this visit.

6. Did you feel rushed when you saw the doctor? (That is, did the time you spent with the doctor seem too short?)

- ☐ a. Yes.
- ☐ b. No.

7. What do you think about the length of time you spent in the waiting room to see the doctor?

- ☐ a. It was too long.
- ☐ b. It was reasonable.
- ☐ c. No opinion.

8. Are you able to get information from the central appointment system clerk (operator) about hospital schedules, policies, clinic locations, etc.?

- ☐ a. Yes.
- ☐ b. No.
- ☐ c. I have never asked for such information.

9. Do the central appointment system clerks (operators) seem to know enough about illnesses to make you an appointment for the proper clinic when you describe your problem to them?

- ☐ a. Yes, usually.
- ☐ b. No.
- ☐ c. I've never had to describe a health problem to an appointment clerk.

10. Are the central appointment system clerks (operators) courteous?

- ☐ a. Yes, always.
- ☐ b. Yes, usually.
- ☐ c. Sometimes.
- ☐ d. No.

11. Is the central appointment system able to make more than one appointment for you for a single day?

- ☐ a. Yes.
- ☐ b. No.
- ☐ c. Don't know; I have never had to request more than one appointment for one day.

12. Is it easy to reach the central appointment system when you are inside the hospital, or the clinic area?

- ☐ a. Yes.
- ☐ b. No, the phones are usually busy.
- ☐ c. No, you can only reach it by calling in from outside.
- ☐ d. Don't know.

13. Can the central appointment system handle little-advance-notice appointments, such as "I would like to come in tomorrow", or "the doctor told me to come back in 2 days"?

- ☐ a. Yes.
- ☐ b. No.
- ☐ c. Don't know.

14. Do the appointment clerks seem to take a personal interest in you?

- ☐ a. Yes.
- ☐ b. Sometimes.
- ☐ c. No.
- ☐ d. No opinion.

15. Were you able to get an appointment for this visit with the doctor you wanted?

- ☐ a. Yes.
- ☐ b. No.

16. Was today's appointment scheduled for as soon as you wanted it?

- ☐ a. Yes.
- ☐ b. No.

17. Do you think the central appointment system at this hospital works well?

- ☐ a. Yes.
- ☐ b. No.
- ☐ c. No opinion.

18. Please write below any comments you would like to make about the appointment system at this hospital.

APPENDIX 3

APPOINTMENT SYSTEMS

STAFF INTERVIEW SCHEDULE - WBGH

1. What clinic do you usually work in? _____

2. Does the clinic you work in use the central appointment system to schedule some or all of patients that you see?

_____ a. Yes

_____ b. No

3. Do you like this hospital's CAS?

_____ a. Yes

_____ b. Yes, in some ways

_____ c. No

_____ d. No opinion (indifferent)

4. Does the CAS schedule your follow-up patients?

_____ a. Yes

_____ b. No, a clerk in my clinic schedules them

_____ c. No, I schedule them myself

_____ d. Both b and c

_____ e. Other

5. Using the CAS, can you have a patient re-appointed for the next day?

_____ a. Yes

_____ b. No

6. Using the CAS, can you have a patient re-appointed for two days' hence?

- _____ a. Yes
_____ b. No

7. Are lists of appointments furnished by the CAS usually accurate?

- _____ a. Yes
_____ b. No

8. Is the CAS able to insure that most of the patients' medical records are available when you see your patients?

- _____ a. Yes
_____ b. Not very often
_____ c. No

9. Is the CAS able to insure that most of the patients' x-rays are available when you see your patients?

- _____ a. Yes
_____ b. Not very often
_____ c. No

10. Is it easy to cancel your appointments if you must be absent from the clinic?

- _____ a. Yes
_____ b. No

11. Are you able to easily work in special patients, walk-in patients, etc., when all regular appointments are filled?

- _____ a. Yes
_____ b. No

12. Do you have a significant amount of idle time because of the appointment system (that is, consultation (service) times are too long or not enough patients are scheduled per clinic session)?

- _____ a. Yes, I have too much idle time
_____ b. No, my consultation times seem about right

13. Do you usually feel rushed in seeing patients who have appointments because you have a scheduled consultation time that is too short?

- _____ a. Yes
_____ b. No

14. How often do you find a patient who has been erroneously appointed to a clinic?

- _____ a. Never
_____ b. Rarely (once a month, or less)
_____ c. Frequently (once a week)
_____ d. Daily

15. Assuming that a CAS of some type is mandatory and if there were no limit on money or staff, that would you do to improve this CAS?

APPENDIX 4

CENTRAL APPOINTMENT SYSTEM

STAFF QUESTIONNAIRE

(FGH, MAH, DAH)

1. What clinic do you usually work in? _____
2. What is your position on the hospital staff?
 - ___ a. Staff physician
 - ___ b. Resident
 - ___ c. Fellow
 - ___ d. Intern
 - ___ e. Other
3. Do you like this hospital's Central Appointment System (CAS)?
 - ___ a. Yes
 - ___ b. Yes, in some ways
 - ___ c. No
 - ___ d. No opinion
4. How are your follow-up patients scheduled?
 - ___ a. CAS
 - ___ b. A clerk or secretary in my clinic schedules them
 - ___ c. I schedule them myself
 - ___ d. Other (describe): _____
5. Using the CAS, can you have a patient re-appointed for the next day?
 - ___ a. Yes
 - ___ b. No

6. Using the CAS, can you have a patient re-appointed for two days' hence?

___ a. Yes

___ b. No

7. Are lists of appointments furnished by the CAS usually accurate?

___ a. Yes

___ b. No

8. Is the CAS able to insure that most of the patients' medical records are available when you see your patients?

___ a. Yes

___ b. Not very often

___ c. No

9. If you require x-rays to be present when you see some of your patients, is the CAS able to insure that most of the patients' x-rays are available when you see your patients?

___ a. Yes

___ b. Not very often

___ c. No

___ d. I usually do not require x-rays to be present

10. Is it relatively easy to cancel your appointments if you must be absent from the clinic?

___ a. Yes

___ b. No

___ c. I have not had occasion to request an absence

11. Are you able to easily work in special patients, walk-in patients, etc., when all regular appointments are filled? That is, can you overbook relatively easily through the CAS?

___ a. Yes

___ b. No

12. Do you have a significant amount of idle time because of the appointment system (that is, consultation times are too long, or not enough patients are scheduled per clinic session)?

☐ a. Yes, I have too much idle time

☐ b. No

13. Do you usually feel rushed in seeing patients who have appointments because you have a scheduled consultation time that is too short?

☐ a. Yes

☐ b. No

14. How often do you find a patient who has been erroneously appointed to a clinic?

☐ a. Never

☐ b. Rarely (once a month, or less)

☐ c. Frequently (once a week)

☐ d. Daily

15. Assuming that a CAS of some type is mandatory and if there were no limit on money or staff, what would you do to improve this CAS?

APPENDIX 5

CLINICS IN WHICH PATIENT QUESTIONNAIRES WERE DISTRIBUTED

CLINIC	HOSPITAL			
	WBGH	FGH	MAH	DAH
General Outpatient/Gen. Medicine	X	X	X	X
OB	X			
GYN	X	X		X
Family Planning		X		
Orthopedic	X	X	X	X
Podiatry	X	X	X	X
General Surgery	X	X	X	X
Plastic Surgery		X		
Pediatric	X		X	X
Well-Baby	X		X	X
Dermatology	X	X	X	
Allergy		X	X	X
Gastroenterology	X	X		
Rheumatology	X			
Neurology		X		X
Hematology		X		
Hypertension	X			
Nuclear Medicine-Endocrinology	X			
Medical (Internal Medicine)		X		X
Ophthalmology		X		X
ENT		X		X
Optometry		X	X	X
Urology	X	X	X	

CLINIC APPOINTMENT SCHEDULE - WRGH

APPENDIX 6

DATE: FRI. _____

750	810	830	850	910	930	950	1010	1030	1050	1110	1130	1150	1250	110	130	150	210	230	250	310	330	350

DATE: THURS. _____

750	810	830	850	910	930	950	1010	1030	1050	1110	1130	1150	1250	110	130	150	210	230	250	310	330	350

DATE: WED. _____

750	810	830	850	910	930	950	1010	1030	1050	1110	1130	1150	1250	110	130	150	210	230	250	310	330	350

DATE: TUES. _____

750	810	830	850	910	930	950	1010	1030	1050	1110	1130	1150	1250	110	130	150	210	230	250	310	330	350

DATE: MON. _____

750	810	830	850	910	930	950	1010	1030	1050	1110	1130	1150	1250	110	130	150	210	230	250	310	330	350

DATE: FRI. _____

750	810	830	850	910	930	950	1010	1030	1050	1110	1130	1150	1250	110	130	150	210	230	250	310	330	350

DATE: THURS. _____

750	810	830	850	910	930	950	1010	1030	1050	1110	1130	1150	1250	110	130	150	210	230	250	310	330	350

DATE: WED. _____

750	810	830	850	910	930	950	1010	1030	1050	1110	1130	1150	1250	110	130	150	210	230	250	310	330	350

DATE: TUES. _____

FRIDAY	
DATE	
	7:50
	8:10
	8:30
	8:50
	9:10
	9:30
	9:50
	10:10
	10:30
	10:50
	11:10
	11:30
	11:50
	12:50
	1:10
	1:30
	1:50
	2:10
	2:30
	2:50
	3:10
	3:30
	3:50

THURSDAY	
DATE	
	7:50
	8:10
	8:30
	8:50
	9:10
	9:30
	9:50
	10:10
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	1:10
	1:30
	1:50
	2:10
	2:30
	2:50
	3:10
	3:30
	3:50

WEDNESDAY	
DATE	
	7:50
	8:10
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	10:30
	10:50
	11:10
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	12:50
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TUESDAY	
DATE	
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MONDAY	
DATE	
	7:50
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	11:50
	12:50
	1:10
	1:30
	1:50
	2:10
	2:30
	2:50
	3:10
	3:30
	3:50

APPENDIX 8

Walter Reed General Hospital
Clinic Appointment Form

NAME		DHC NO.
		TELEPHONE NO.
DATE		HOUR
PHYSICIAN		
CLINIC		
WRAMC FORM 158 (REPLACES WRAMC FM 158, 15 1 DEC 66 AUG 66, WHICH MAY BE USED) CLINIC APPOINTMENT		

DEPARTMENT OF THE ARMY
United States Munson Army Hospital
Fort Leavenworth, Kansas 66027

[illegible]

LO-0896
9-1

[illegible]

FL Form 122(R)
28 May 1969

APPENDIX 10

PEDIATRIC CLINIC, US IRELAND ARMY HOSPITAL

PM APPTS DR. _____ DATE _____ DAY _____

PEDIATRIC CLINIC		PEDIATRIC CLINIC
TIME: 1300	DATE _____	TIME: 1430
NAME: _____		NAME: _____
DEPN OF: _____	(RANK) _____	DEPN OF: _____
		(RANK) _____

SSN: _____	SSN: _____
TELEPHONE: _____	TELEPHONE: _____

PEDIATRIC CLINIC		PEDIATRIC CLINIC
TIME: 1315	DATE _____	TIME: 1445
NAME: _____		NAME: _____
DEPN OF: _____	(RANK) _____	DEPN OF: _____
		(RANK) _____

S _____	SSN: _____
TELEPHONE: _____	TELEPHONE: _____

PEDIATRIC CLINIC		PEDIATRIC CLINIC
TIME: 1330	DATE _____	TIME: 1500
NAME: _____		NAME: _____
DEPN OF: _____	(RANK) _____	DEPN OF: _____
		(RANK) _____

SSN: _____	SSN: _____
TELEPHONE: _____	TELEPHONE: _____

PEDIATRIC CLINIC		PEDIATRIC CLINIC
TIME: 1345	DATE _____	TIME: 1515
NAME: _____		NAME: _____
DEPN OF: _____	(RANK) _____	DEPN OF: _____
		(RANK) _____

SSN: _____	SSN: _____
TELEPHONE: _____	TELEPHONE: _____

PEDIATRIC CLINIC		PEDIATRIC CLINIC
TIME: 1400	DATE _____	TIME: 1530
NAME: _____		NAME: _____
DEPN OF: _____	(RANK) _____	DEPN OF: _____
		(RANK) _____

SSN: _____	SSN: _____
TELEPHONE: _____	TELEPHONE: _____

PEDIATRIC CLINIC		PEDIATRIC CLINIC
TIME: 1415	DATE _____	TIME: 1545
NAME: _____		NAME: _____
DEPN OF: _____	(RANK) _____	DEPN OF: _____
		(RANK) _____

SSN: _____	SSN: _____
TELEPHONE: _____	TELEPHONE: _____

APPENDIX 11

NEW CENTRAL APPOINTMENT SYSTEM, BETHESDA NAVAL HOSPITAL

1. FEATURES. Equipment for the system includes a special motorized horizontal rotary tier with four VISICARD rotary units mounted on the tier. By rotating the tier each appointment clerk sitting around it has access to all appointment schedules. The new telephone system represents the most significant change. The system has fifteen incoming lines with only one phone number. A rotary device distributes the calls in the order that they are placed. An automatic hold system and recorded message are other features of the telephone system.

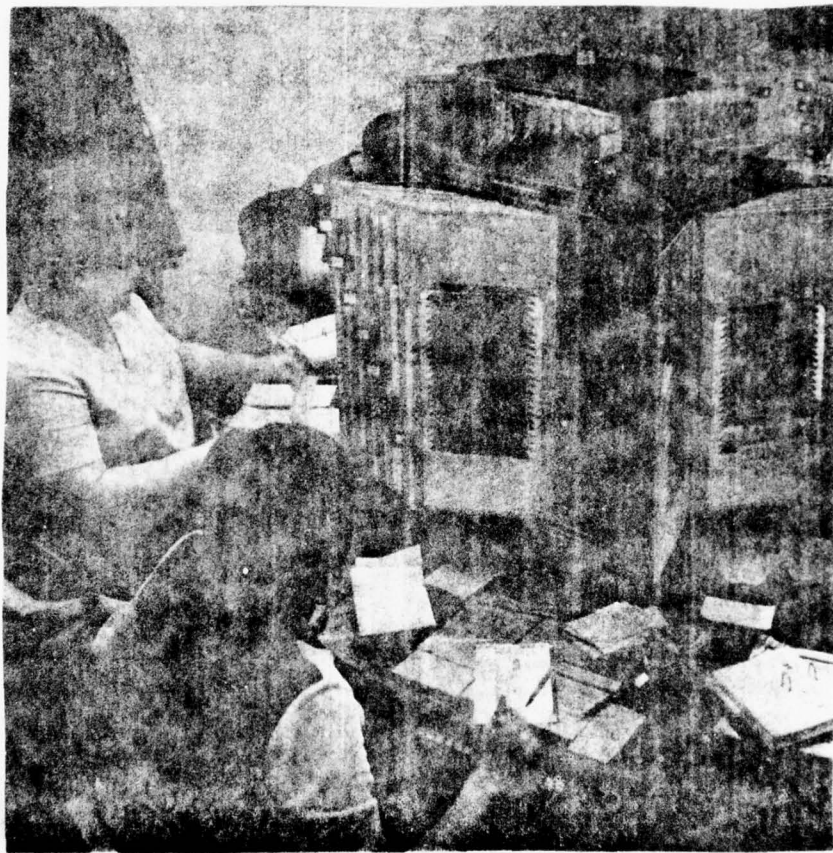
2. ADVANTAGES. Significant advantages of the new Central Appointment System are:

- a. A single number to call for all appointments.
- b. All appointment clerks have the capability of making any appointment requested.
- c. Calls are taken in the order that they are placed up to fifteen calls with automatic hold.
- d. Automatic recordings to advise status of call placed.
- e. Automatic recording when appointment system is secured.
- f. Elimination of competition between walk-up patients and those requesting appointments by phone.
- g. Prevents appointment desk from being used as an information desk by walk-up patients and visitors.

3. RENOVATION OF SPACE. A room, approximately 18' X 18' was used for the Central Appointment System. This room was formerly used for storage of baggage. Cost of renovating the space was approximately \$2,000.00.

APPENDIX 12

Photograph of VISirecord
Rotary Stands, CAS
Bethesda Naval Hospital



From U.S. Medicine, 15 May 1972
(reproduced with permission)

CLINIC FOR WEEK _____ thru _____ 19 _____

Monday		8:00	8:15	8:30	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30	10:45	11:00	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00
Date																											
Dr.																											

Tuesday		8:00	8:15	8:30	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30	10:45	11:00	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00
Date																											
Dr.																											

Wednesday		8:00	8:15	8:30	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30	10:45	11:00	1:00	1:15	1:30	1:45	2:00	2:15	2:30	2:45	3:00	3:15	3:30	3:45	4:00
Date																											
Dr.																											



Saturday		8:00	8:15	8:30	8:45	9:00	9:15	9:30	9:45	10:00	10:15	10:30	10:45	11:00
Date														
Dr.														

Instructions

Add or delete new or departing
Doctors' Name

(x) Out time not available for
appointments for each doctor.

AVAILABILITY FOR APPOINTMENTS

NH Form 298
1 March 1963

Clinic Scheduling
Bethesda Naval Hospital

13-1

Approved _____

VISIrecord Appointment Scheduling
Form, Bethesda Naval Hospital

[illegible]

APPENDIX 15

Appointment Slip Bethesda Naval Hospital

U S GOVERNMENT PRINTING OFFICE: 1972-470-250

PATIENT DATA		CATEGORY: USN DEP USMC DEP USA DEP USAF DEP USCG DEP PHS DEP C&GS DEP FOREIGN DEP VAS		RET USN DEP RET USMC DEP RET USA DEP RET USAF DEP RET USCG DEP RET C&GS DEP DEC CIVPERS SEC OTHER:							
CLINIC	ALLERGY	GYN	ORTHOPEDIC	PEDIATRIC	UROLOGY						
	CARDIOLOGY	EYE	NP	SURG-GEN	WALK-IN						
	DERMATOLOGY	MEDICAL	OS-NEW	SURG-NEURO	OTHER:						
	ENT	NEUROLOGY	OS-RETURN	SURG-PLASTIC							
DATE	MON	TUE	WED	THU	FRI	JAN	FEB	MAR	H	12	00
	1	2	3	4	5	6	7	8	9	10	11
	11	12	13	14	15	16	17	18	19	20	21
	21	22	23	24	25	26	27	28	29	30/31	31
						JUL	AUG	SEP	U	10	2
						OCT	NOV	DEC	R	9	3
										8	4
											15
											30

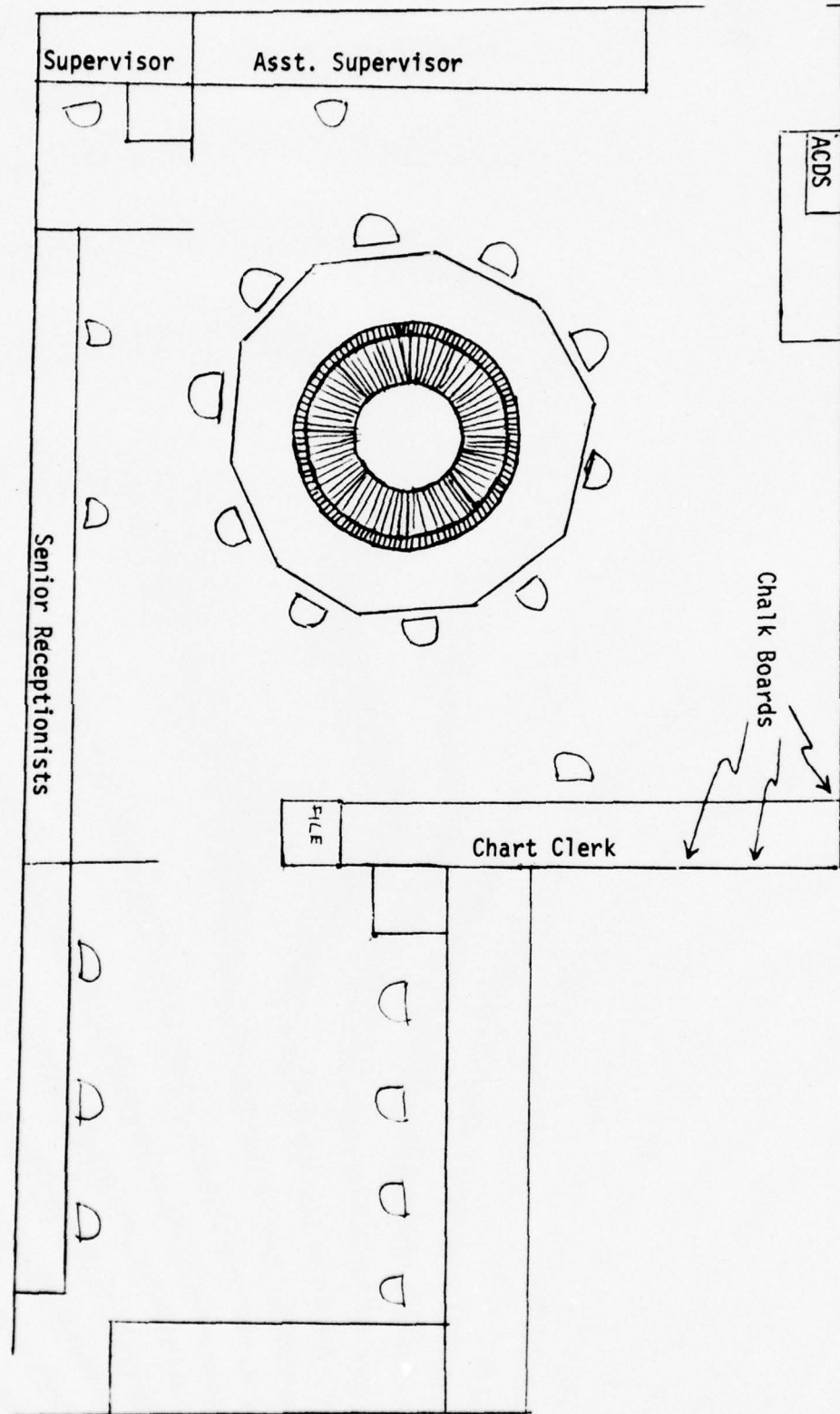
IF YOU ARE UNABLE TO KEEP THIS APPOINTMENT, PLEASE CALL 298-0882

PATIENT'S HOME PHONE

DOCTOR

NAVAL HOSPITAL
BETHESDA, MD.
APPOINTMENT SLIP
ADW-NNMC-6320/1 (REV. 3-71)

APPENDIX 17



Central Appointment System Layout
Kaiser-Permanente Medical Center, San Francisco

DOCTOR	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
AULL	AM		ALL DAY		AM
BUDAI	NNP	PM		NO EVE	
CAULFIELD	NNP	ALL DAY	ALL DAY	ONLY EVES	PM
COGSWELL			EVERY OTHER		
CRAWFORD					PM
FESTINGER	10:45-1:30	PM - 2 APPT	4:00 - 5:00		10:45-5:00
FERTMAN	PM	PM	PM	PM	PM
FESSEL	NNP	PM - 2 APPT	PM - 2 APPT	1:00-2:00	
FRANK	PM	ALL DAY	1:00-3:00	PM	
FREID			PM		PM
GHERMAN		PM - 2 APPT	PM		
HARRIS	PM		ALL DAY		
HARTLEY	10:45-5:00	10:45-5:00	10:45-5:00	10:45-5:00	10:45-5:00
HENDRICKSON	PM - 2 APPT		PM - 2 APPT	PM - 2 APPT	
HERBERT					
JANIN	AM	ALL DAY	11:00-3:00	AM	AM
KENNEDY	3:30-4:30	1:00-2:30	3:00-5:00		9:00-2:30
KROMHOUT		PM - 2 APPT	18-1	PM - 2 APPT	AM

DOCTOR

APPENDIX 19

TIME	PATIENT	NEW OR R	COVERAGE GROUP	X- RAY	VR #	MEDICAL RECORD NUMBER	TELEPHONE NUMBER	INITIAL AND DATE
9:00								
9:15								
9:30								
9:45								
10:00								
10:15								
10:30								
10:45								
11:00								
11:15								
11:30								
11:45								
12:00								
1:00								
1:15								
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2:30								
2:45								
3:00								
3:15								
3:30								
3:45								
4:00								
4:15								
4:30								
4:45								
5:00								

KAISER-PERMANENTE

19-1

9:00	Kaiser-Permanente					
9:20						
9:40						
10:00						
10:20						
10:40						
11:00						
11:20						
11:40						
12:00						
1:00						
1:20						
1:40						
2:00						
2:20						
2:40						
3:00						
3:20						
3:40						
4:00						
4:20						
4:40						
5:00						

06049 A - SHORT APPT. (RETURN PT. OR FORM PHYSICAL)
 (REV. 5-70) B - LONG APPT. (NEW PT. OR PER DR'S REQUEST)

S - SAS (PER DOCTOR'S REQUEST ONLY)
 Z - DOCTOR'S SPECIALTY TIME

APPENDIX 21

5 South

APPOINTMENT TIME:

a. Referral patients & Consultations	20 mins	B
b. New, Diagnostics & over 6 months returns	20 "	B
c. Return under 6 months	20 "	A or B
d. Hospital Releases	20 "	
e. Pre-operatives	20 "	
f. SAS Times	Only by doctors instr.	
g. 803's		
h. 801's		
i. Z Time	Does not have Z time	

COMMENTS:

Does not see New pts. Only by Referrals

Sub-speciality: Gastro-Intestinal, Stomach

Senior Recept - Pearl T.

NOTE:

SAS Times = "Squeeze and Save" (for extra patients if requested specifically by the doctor)

803's = urgent referrals from the Multi-phasic Screening System

801's = emergency referrals from the Multi-phasic Screening System

Z Time = physician specialty time

INDIVIDUAL DOCTOR'S SOP
KAISER-PERMANENTE, SAN FRANCISCO

APPENDIX 22

Medical Record Request Form Kaiser-Permanente, San Francisco

MEDICAL RECORD REQUEST / NOTICE OF TRANSFER									
		IS A <input type="checkbox"/> REQUEST <input type="checkbox"/> TRANSFER		PATIENT					
FROM	LOCATION OR DEPT.			LOC	NAME	USE HEALTH PLAN CARD IMPRINT IF POSSIBLE			
	DOCTOR								
	AT (LOCATION OR DEPT.)			DEPT.					
TO	DATE		TIME	<input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	BIRTH DATE			COVERAGE	
PREPARED BY SIGNATURE					CHECK ONE <input type="checkbox"/> D.I. <input type="checkbox"/> APPT	CHARGE OUT			

96209 REV 4-71

APPENDIX 23

Advance Appointment Slip Kaiser-Permanente, SF

YOU HAVE AN APPOINTMENT WITH:		ON		AT	
MR#	DR.	DEPT.	DAY	MONTH	DATE
				AM PM TIME	

FOR OFFICE USE ONLY			MINORS NOT SEEN WITHOUT CONSENT		
SEEN _____	DUE _____	MHC TAKEN _____	NEW RETURN MHC		
BIRTHDATE _____ COV. _____ GRP. _____			PLEASE BRING THIS SLIP WITH YOU		
X-RAYS: <input type="checkbox"/> YES <input type="checkbox"/> NO SEX: <input type="checkbox"/> M <input type="checkbox"/> F					
<input type="checkbox"/> PRE-OP <input type="checkbox"/> HOSP. RELEASE <input type="checkbox"/> OUT OF AREA					
REQUEST FOR MHC _____ DATE/MONTH WANTED _____					
APPOINTMENT GIVEN BY _____			RECEPT. INITIALS _____		

NAME _____		
ADDRESS _____		
CITY _____	STATE _____	ZIP CODE _____
DAYTIME TELEPHONE _____	EVENING TELEPHONE _____	

**PLEASE ALLOW 10 MINUTES TO REGISTER
BRING YOUR HEALTH PLAN IDENTICARD**

If you are unable to keep this appointment, Please call:
 Walnut 2-5211 for Medical or Pediatrics
 Walnut 2-3400 for all other Services

The Permanente Medical Group San Francisco, California
 2200 O'FARRELL ☐ 2350 GEARY ☐ 2425 GEARY ☐

APPOINTMENT SLIP

178

APPENDIX 24

Clinics Not on CAS
Phase I

Walter Reed General Hospital

Gynecology	EEG
Obstetrics	Occupational Therapy
Family Planning	Optometry
Proctology	<u>Brace Shop</u>
Well-Baby	
Cardiology	TOTAL: 26
Gastroenterology	
Hematology	
Arthritis	
Nephrology	
Neurology	
Psychiatry	
Neurosurgery	
Ophthalmology	
Otolaryngology	
Plastic Surgery	
Pulmonary Disease	
Radiation Therapy	
Thoracic Surgery	
Urology	
Physical Medicine	
Social Work	

Munson Army Hospital

Allergy (outside consultant)
Endocrinology (outside consultant)
Neurology (outside consultant)
Gastroenterology (outside consultant)
Plumonary Disease (outside consultant)
Cardiology (outside consultant)
Hematology (outside consultant)
Neuropsychiatry
Pediatrics
Obstetrics
Gynecology
Dental
Physical examination (except doctor's portion)

TOTAL: 13 (Note: other outside consultants are on the CAS.)

Womack Army Hospital

Allergy
Neuropsychiatry
Physical Therapy

Occupational Therapy
Diet
Dental

TOTAL: 6

Ireland Army Hospital

Obstetrics
Gynecology
Neuropsychiatric
Optometry
Dental

TOTAL: 5

Bethesda Naval Hospital

Psychiatry
Psychology
Occupational Therapy
Physical Therapy
Outpatient Walk-in Clinic
Radiology (x-ray)
Radioisotope
Radiotherapy
Emergency Room
Immunization
Dental

TOTAL: 11

Kaiser-Permanente, San Francisco

Obstetrics
Gynecology
Surgery
Psychiatry

TOTAL: 4

APPENDIX 25

Central Appointment System Womack Army Hospital, Ft. Bragg, NC

1. At Womack Army Hospital clinic schedules (Fig. 25-1), containing the names of the doctors in the clinics, are on clipboards mounted on two rotating drums (Fig. 25-2), each serviced by four clerks (Fig. 25-3), one of whom is male. Appointments are entered on McBee Keysort edge-punched cards (Fig. 25-4), which are prepunched as to clinic and filed in "Flip-Flop" files on each clerk's desk (on left in Fig. 25-3).
2. When an appointment is made, the information called for in the center of the form is filled out in pencil, and clips are made on the border of the form indicating the month, date, and hour of the appointment, the terminal digit number group (one of 10), and status (active duty, dependent, etc.). The clerk's initials are also placed in the proper block on the clinic schedule (Fig. 25-1). The completed appointment cards are placed in the Flip-Flop file, and periodically are sorted by date and terminal digit number group and filed in a Diebold Power File (Fig. 25-5, and pages 25-7 and 25-8). The appointment card (Fig. 25-4) is in triplicate: the first two copies are carbon-backed, and the third copy is card-stock. At 1100 hours on the work day before the appointment day the first copies of the appointment forms are collected and sent to the clinics via Medical Records with patients' names in alphabetic sequence (they are later destroyed); the second copies are sent to the Medical Records Section, where they are used as charge-out slips as the records are pulled; and copy three remains in the CAS for about 30 days.
3. It should be noted that the "no-show" block on the appointment slip is used only for special studies on no-shows; it is not used routinely.
4. Each clerk has a twenty-button Western Electric Call Director, equipped with both a handset and a Pacific Plantronics headset. The supervisor has a thirty-button supervisor's console.
5. The WAH CAS was initially installed in 1966, but was closed down several years later. It was re-opened in April 1972. The 40-inch-diameter drums (Fig. 25-2) were fabricated locally in 1966 from a similar item made by the Wassell Corporation (now part of VISIrecord Systems). The Diebold Power File (Fig. 25-5) is the same as that now offered by Diebold as Model 10863-26 under GSA Contract No. GS-00S-14509, valid 1 Oct 72 through 30 Sep 73. It comes with trays for 4 in. X 6 in. cards, and had to be modified to accommodate the 3 1/4 in. X 8 in. McBee cards, at a cost of \$302. Present cost of the Diebold file at San Antonio would be \$1,463.38.

MED SPEC CL

CLINIC

THURSDAY

DATE: 16 Nov

CORNFIELD

DOUGHERTY

LICHTBLAU

STANBAUGH

0745																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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Figure 25-1
Clinic Schedules



Figure 25-2



Figure 25-3

ORTHOPEDICS WELL-BABY UROLOGY SURGICAL POST PARTUM PEDIATRIC PODIATRY ACTIVE DUTY RETIRED TDR ARMY AIR FORCE NAVY-MARINE MILITARY DEPENDENT	DE NO OC SE AU JU MA AP MR FE JA 30 20 10 9 8 7 6 5 4 3 2 1																							
	MONTH												DATE											
	SSAN												DERMATOLOGY											
	NAME												EYE											
	SPONSOR												UNIT											
	PHONE OR ADDRESS												ENT											
	PHYSICIAN												GYNECOLOGY											
	DISP. NO.												MEDICAL, GENERAL											
	YES NO ? NO SHOW												MEDICAL, SPECIALTY											
	FB FORM 1718-R REV. 1 AUG. 66												APPOINTMENT SLIP J98637M PREVIOUS EDITION OBSOLETE											
HOUR												TERMINAL DIGIT												
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30												1 2 3 4 5 6 7 8 9 0												

Figure 25-4

Appointment Slips
Womack Army Hospital

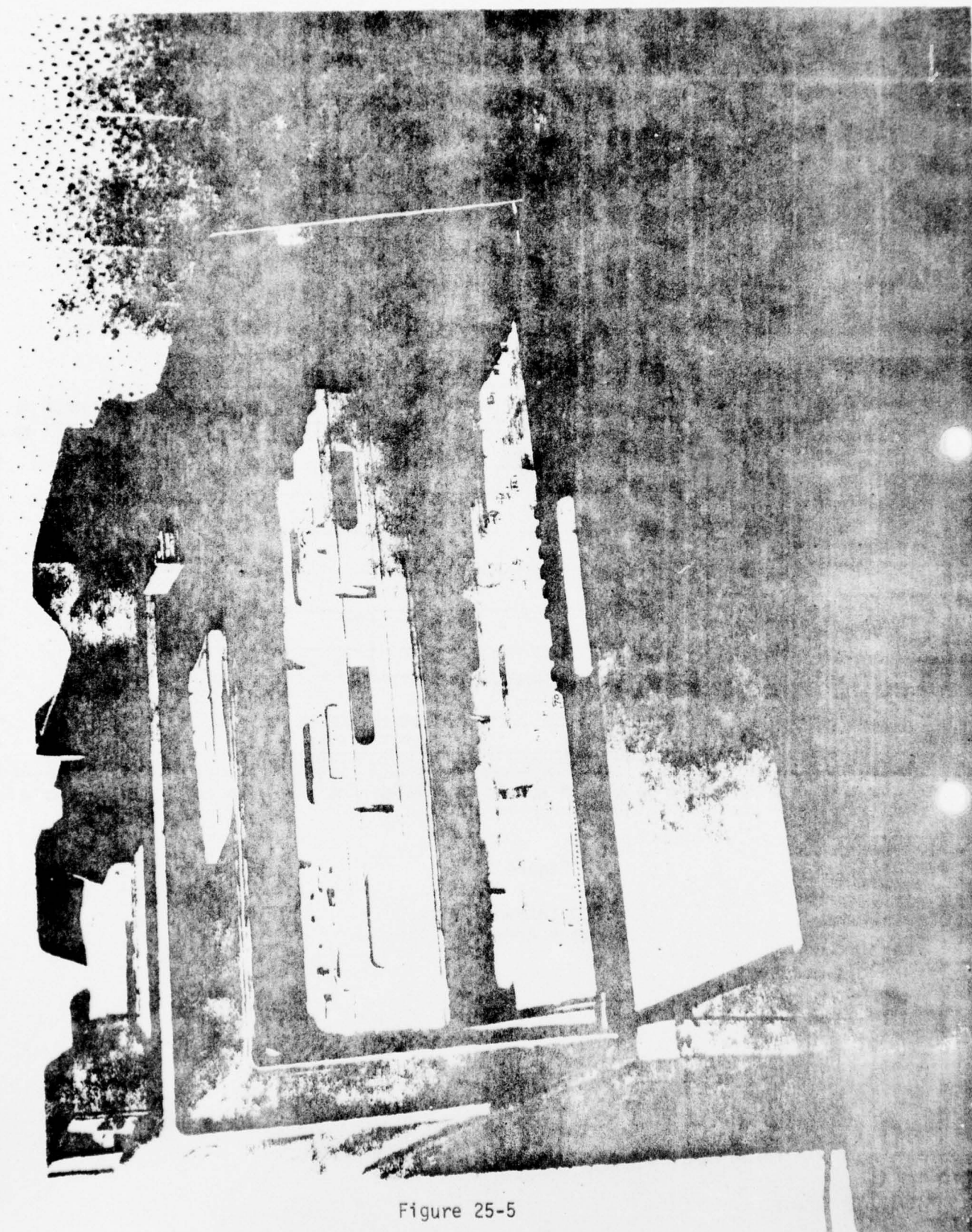
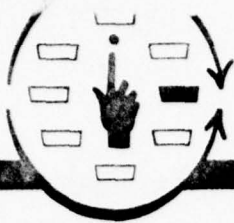


Figure 25-5

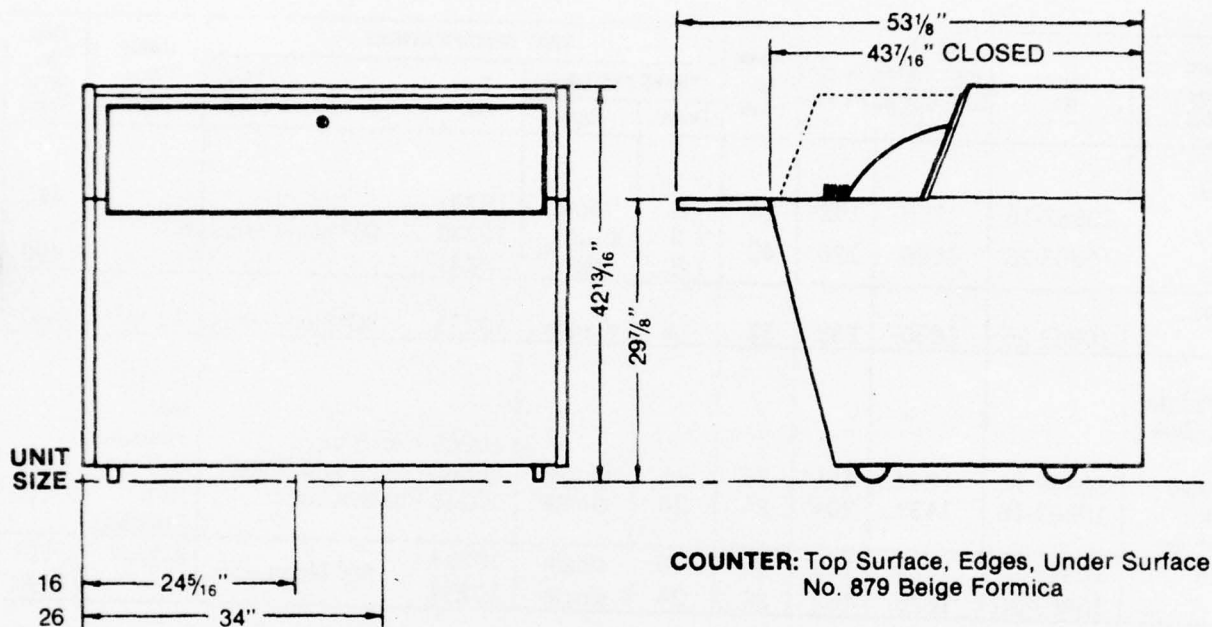


ROTARY FILES

CODE 8391

U.L. Listed

DIMENSIONS



↓

DIMENSIONS	10862-16	10863-26
Overall Height	42 $\frac{13}{16}$ "	42 $\frac{13}{16}$ "
Overall Width	24 $\frac{5}{16}$ "	34"
Overall Depth Shelf Extended	53 $\frac{1}{8}$ "	53 $\frac{1}{8}$ "
Overall Depth Shelf Closed	43 $\frac{7}{16}$ "	43 $\frac{7}{16}$ "
Height from Floor to Shelf	29 $\frac{7}{8}$ "	29 $\frac{7}{8}$ "

POWER SUPPLY: 110-115 v 60 cy. A.C.

MOTOR: 95 v D.C. Motor
1/8 H.P. 10862 and 10863

CASTERS AND DOME LEVELIZERS:
Standard all Files

FINISH:

Exterior—Sides, Back and Top: Dusty Green
Empire Gray
Pheasant Tan
Blue Azure
Platinum

Exterior—Front and Telescoping Hood: Platinum Std.
Interior—Platinum, Standard all Files.

ROTARY FILES

PRICING & CAPACITIES

Card Size W-H	Model No.	PRICE	Filing Inches	Rows of Cards	TRAY SPECIFICATIONS				Inside Tray Depth	Ship. Wt. W/O Trays
		INCL. TRAY			TRAYS PER UNIT		Tray No.	Tray description		
		Push Button Control			Quant.	Type				
5 x 3	10862-16	1258.	192"	24	8	triple	10231	80° Slope ends	8"	410
	10863-26	1586.	320"	40	{ 8	double	10230			
					8	triple	10231			
6 x 4	10863-26	1650.	232"	32	16	double	10233	80° Slope ends	7-1/4"	490
Tab Horizontal Flex-Blok or Positive Lock Follower	10862-16	1249.	136"	16	16	single	10209 Flex Blok	Vertical Front and Back	8-7/8" with Follower 8-1/2" with Follower	410
	10863-26	1433.	204"	24	24	single	10235 Positive Lock			
8 x 5	10862-16	1229.	108"	16	16	single	10234	80° Slope ends	6-3/4"	410
	10863-26	1625.	162"	24	24	single	10234			

Safety-Cushion standard on all Units.

OPTIONAL EXTRAS:

Leg for Standing Reference. Legs 10 7/8" high for 40" counter height..... Add \$112.00

DELIVERY TERMS:

Prices are F.O.B. Destination with delivery to customer's receiving dock (if available) by common carriers on articles for which store delivery is provided free of charge.

Where local delivery and special handling is involved the customer is subject to these additional charges.

BASIC DISCOUNT		
E.Z.	C.Z.	W.Z.
10%	9 1/2%	8%

GSA PRICING METHOD
Listed price, less Basic discount off listed price, less quantity discount.

QUANTITY DISCOUNT	
1 to 5 units	2%
6 to 9 units	5%
10 or over	7 1/2%

COMMENTS ON THE WOMACK ARMY HOSPITAL

CENTRAL APPOINTMENT SYSTEM

1. The WAH CAS is one of those that uses two forms: one is a clinic schedule, and the other is a separate appointment form. As indicated in paragraph 17a(10) of the report, this seems less desirable than having just one form for both purposes, as is the case at DAH (or, of course, for the punched-card system at WBGH and FGH).
2. The use of two separate rotary rotating drums and two separate rotary ring-down systems, each served by only four clerks, requires patients to know which of two numbers to call for a given clinic. It has been clearly shown that an 8-position rotary file and ring-down system is quite feasible.
3. For the above two reasons, the WAH system is not believed to be as desirable as some of the others studied.

APPENDIX 26

EQUIPMENT COST LISTING, BETHESDA NAVAL HOSPITAL, 1970

APPOINTMENT SYSTEM EQUIPMENT. Available from VISirecord Systems,
Division of Barry Wright Corporation, Copiague, New York 11726.

a. MOTORIZED ROTARY TIER

1	Motorized shaft and base	\$248.00
1	Motor and controls	726.00
1	78" tier for housing VISirecord Rotary	768.00
1	103" ring shelf	628.00
4	Push button sets @ \$19.00 ea.	76.00
4	Foot hold switches @ \$10.50 ea.	42.00

TOTAL \$2,488.00

b. VISICARD ROTARY EQUIPMENT

4	Visicard Rotary stand @ \$162.50 ea.	\$650.00
160	Visicard Panels @ \$9.00 ea.	1,440.00
10M	Special Visicard, 8 X 5 inches, die-cut for 1/2" visible margin @ \$30.85 per M	308.00
	Special die-cut charge	25.00

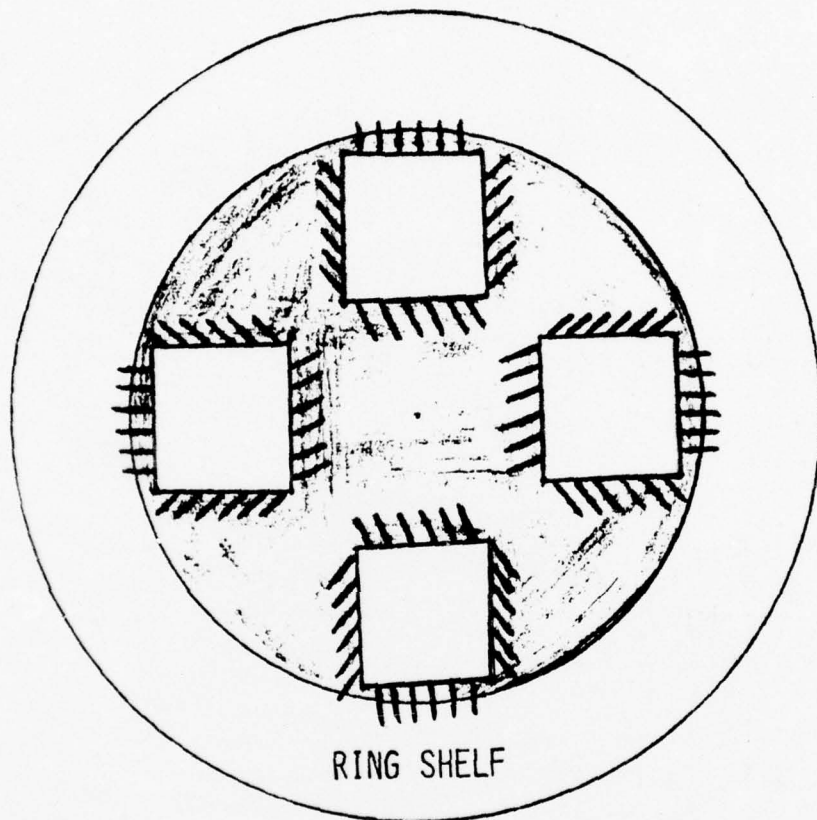
15M	Appointment record cards, printed on 1 side only, per your format, white #132 stock, black ink, 8" X 5" @ \$13.75 per M	206.25
-----	---	--------

	Original run charge	14.00
--	---------------------	-------

TOTAL \$2,643.25

APPENDIX 27

Topview of rotary file in CAS
of Bethesda Naval Hospital
MOTORIZED HORIZONTAL ROTARY TIER
WITH FOUR VISICARD ROTARY UNITS



TOP VIEW

78" HORIZONTAL TIER
108" RING SHELF

APPENDIX 28

Telephone Equipment at CAS,
Bethesda Naval Hospital
(Installed 1970)

(Telephone equipment obtained locally from the Chesapeake and Potomac Telephone Company, Washington, D.C.)

1. First ten trunk unit for 20/20 Automatic Call Distributor common equipment includes switching cabinet equipped for ten incoming trunks and ten attendant positions with associated common control circuits per each unit.

Service Connecting Charge \$300.00 Monthly Charge \$150.00

2. Second ten trunk unit.

Service Connecting Charge \$300.00 Monthly Charge \$120.00

3. Power supply, per system.

Service Connecting Charge \$ none Monthly Charge \$13.75

4. Delayed announcement and/or night answering arrangement:
first ten trunks or fraction thereof.

Service Connecting Charge \$25.00 Monthly Charge \$30.00

5. Delayed announcement and/or night answering arrangement:
second ten trunks or fraction thereof.

Service Connecting Charge \$25.00 Monthly Charge \$22.00

6. Transfer key.

Service Connecting Charge \$5.00 Monthly Charge \$.60

7. Two announcement machines (100A).

Service Connecting Charge \$15.00 Monthly Charge \$30.00

8. Supervisor's Cabinet - 20 position capacity with 20 monitoring key circuits.

Service Connecting Charge \$50.00 Monthly Charge \$72.50

9. Common equipment for incoming call transfer to other Automatic Call Distributor or Supervisor Positions: first ten trucks or fraction thereof.

Service Connecting Charge \$25.00 Monthly Charge \$20.00

10. Common equipment for incoming call transfer to other Automatic Call Distributor or Supervisor Positions: second ten trunks or fraction thereof.

Service Connecting Charge \$25.00 Monthly Charge \$20.00

AD-A032 498

ACADEMY OF HEALTH SCIENCES (ARMY) FORT SAM HOUSTON TEXAS F/G 6/5
A STUDY OF APPOINTMENT SCHEDULING CONTROL FOR OUTPATIENTS. (U)
JAN 73 R B STUART

UNCLASSIFIED

HCSD-6

NL

3 of 4
ADA032498



11. Call Transfer Trunk, to enable attendant to transfer calls to Dial Station lines.

Service Connecting Charge \$10.00 Monthly Charge \$10.75

12. Five position equipment - with expansion facilities for 8 positions.

Service Connecting Charge \$none Monthly Charge \$ 7.50

13. Six Pacific Plantronic Headsets.

Service Connecting Charge \$none Monthly Charge \$19.50

14. Six Handsets - plug ended.

Service Connecting Charge \$none Monthly Charge \$ 3.00

15. One Main Line.

Service Connecting Charge \$20.00 Monthly Charge \$11.50

16. Fourteen auxiliary lines.

Service Connecting Charge \$280.00 Monthly Charge \$89.00

17. Five position instruments (6051 keys).

Service Connecting Charge \$none Monthly Charge \$42.00

18. Five jacks for handsets or headsets.

Service Connecting Charge \$none Monthly Charge \$ 3.75

19. Line equipment for lights including flashing hold.

Service Connecting Charge \$none Monthly Charge \$79.25

20. Thirty (30) line pickups (6 for each five positions).

Service Connecting Charge \$none Monthly Charge \$12.00

21. One dial intercom line for Supervisor.

Service Connecting Charge \$none Monthly Charge \$.60

22. Five line terminations.

Service Connecting Charge \$50.00 Monthly Charge \$ 6.75

23. Six CENTREX lines (each position and supervisor).

Service Connecting Charge \$78.00 Monthly Charge \$37.20

24. Five card dialer phones at \$28.00 each to connect and \$9.30 each per month.

Total installation \$1,348.00 Total monthly \$868.05

APPENDIX 29

KAISER-PERMANENTE SAN FRANCISCO
CENTRAL APPOINTMENT RECORD - DAILY

POSITION		Position Counts										TOTALS For All Trunks						Day	Date
		1	2	3	4	5	6	7	8	9	10	LTB	ATB	TC	LC	CC	%		
8-9 AM																			
9-10 AM																			
ETC.																			
SHIFT ENDING 1 P.M.																			
1-2 PM																			
2-3 PM																			
ETC.																			
SHIFT ENDING 6 P.M.																			
DAILY TOTAL																			

APPENDIX 30

CENTRAL APPOINTMENT RECORD - MONTHLY
KAISER-PERMANENTE MEDICAL CENTER
SAN FRANCISCO, CA

Month
August 1972

Date	Day	LTB ^a	ATB ^b	TC ^c	LC ^e	%f	FTEg	Avg FTE	Sick Time	Vacation Time	Holiday	Over- Time
1	Tue											
2	Wed											
3	Thur											
4	Fri											
5	Sat		a= Local Trunk Busy									
6	Sun		b= All Trunks Busy									
7	Mon		c= Total Calls									
etc.			d= Lost Calls									
18	Fri		e= Completed Calls									
19	Sat		f= Lost Call % (LC/CC)									
20	Sun		g= Full-time Equivalent									
21	Mon											
22	Tue											
23	Wed											
24	Thur											
25	Fri											
26	Sat											
27	Sun											
28	Mon											
29	Tue											
30	Wed											
31	Thur											
TOTAL												
Monthly Average												

CENTRAL APPOINTMENT
ADMINISTRATIVE REPORT - MONTHLY

	Month			
	AM	PM	NIGHT	TOTAL
TC (Total Calls)				
CC (Completed Calls)				
LC (Lost Calls)				
Lost Call % (LC/CC)				
ATB (All Trunks Busy)				
LTB (Local Trunk Busy)				
FTE				
Average No. CC/FTE				
Sick				
Vacation				
Holiday				
Overtime				

OTHER APPOINTMENT FUNCTIONS

Number of appointments cancelled & rescheduled due to
doctor schedule changes (By Clinic)

Additional appointment calls (not made through wheel)
(TOTAL)

DISPOSITION FORM

APPENDIX 31
Ft. Leavenworth, KA

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

REFERENCE OR OFFICE SYMBOL

SUBJECT

ALDBMD-DC

Waiting Time for Appointments in the Clinics

TO XO, US MAJ
All Physicians

FROM MAJ Meiers/aa/3105

DATE 25 Aug 72

CMT1

The waiting time for appointments in the clinics in working days is as follows:

INT MED	1st visit	4 days
	rtn	1
ORTHO		11
ENT	1st visit	6
	rtn	2
UROL		2
SURG		1
POD		4
EYE	Screening	5
	Priority I	4
	Priority II	11
OPTH		18
OPC		1
PEDS		9
OB GYN	Gyn	7
	Well Woman	19

Av. = 6.5

Richard E. Meiers
RICHARD E. MEIERS
MAJ, MSC
Clinical Administrator

DISPOSITION FORM

APPENDIX 32
Ft. Leavenworth, KA

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

REFERENCE OR OFFICE SYMBOL

SUBJECT

ALBETH-DC

Waiting Time for Appointments in the Clinics

TO

FROM Clinic Administrator DATE 29 Sep 72 CMT
sa/3105

The waiting time for appointments in the clinics in working days is as follows:

INT MED	1st visit	<u>1</u>
	return	<u>2</u>
ORTHO		<u>12</u>
ENT		<u>3</u>
UROL		<u>1</u>
SURG		<u>9</u>
POD		<u>2</u>
EYE	Screening	<u>2</u>
	Priority I	<u>3</u>
	Priority II	<u>4</u>
OPTH		<u>5</u>
OPC		<u>1</u>
PEDS		<u>2</u>
OB GYN	Gyn	<u>13</u>
	Well Woman	<u>10</u>

40. = 4.6

RICHARD E. MEIERS
Major, MSC
Clinic Administrator

APPENDIX 33

RECOMMENDED EQUIPMENT

1	#77100 Motorized Centrac Rotary modified to house four (4) Veri-Visible Compartments (Tubs). Each Veri-Visible compartment will house a total capacity of 600 - 5 x 8 cards, over-all capacity will be 2,400 cards. The Centrac will be furnished complete with six (6) #202 Circa Line Pedestal Desk Positions with modesty shields, center drawer, pencil tray posting shelf, push button controls, and a foot switch for a hold position.	\$4,119.35 each	\$4,119.35
	Circular enclosure for the #77100 Centrac.	333.00 each	333.00
40	✓ MD-2608 Master Dividers.	4.85 each	194.00
4	✓ FTD-2608 Front Throw Dividers	3.25 each	13.00
80	ID-2608 Interdividers, tab positions 6 and 7, 40 of each	.55 each	44.00
36,000	✓ 5 x 8" ER-Green Veri-Visible Cards, three part set, NCR, printed one side, green ink, 36# stock, .75" punching.	66.05 M	2,377.80
	✓ Initial composition charge		18.10
			<u>\$7,099.25</u>
	Less 13-1/2% Contract Discount GS-00S-85590		958.40
	Sub-Total		<u>\$6,140.85</u>
	✓ Add for the custom modification of item #1.		833.00
	TOTAL.....		<u>\$6,973.85</u>

ACME VISIBLE

Admiral Joel T. Boone Clinic
 Naval Amphibious Base
 Little Creek, Va.

RECOMMENDED EQUIPMENT

1	Special #5450 Persian Gold Motorized Centrac Rotary modified to house three (3) special Veri Visible VVJ-8 tubs, each of which shall contain 10 each #2608 Master Dividers. Construction shall utilize an inverted cone shaped vertical outer band. The Centrac will be furnished complete with 3 each #202 Circa Line Pedestal Desk positions, two drawer pedestal, modesty shields, center drawers, pencil tray, posting shelf, push button controls, and foot switches for hold positions.	\$2,960.90 each	\$2,960.90
1	Persian Gold circular enclosure for #5450 Centrac	333.00 each	333.00
30	MD-2608 Shell White #44565 Master Divider	4.85 each	145.50
3	FTD-2608 Shell White #44565 Front Throw Dividers	3.25 each	9.75
20	ID-2608 Interdividers, tab positions 6, 7, and 8, 30 sets of each	.55 each	49.50
			<u>\$3,498.65</u>
	Item 165-6	Less 13% Contract Discount	454.83
			<u>\$3,043.82</u>
	Add for special modification of Item #1		425.00
			<u>\$3,468.82</u>
		TOTAL.....	\$3,468.82

APPENDIX 30
DEPARTMENT OF THE ARMY
HEADQUARTERS
WILLIAM BEAUMONT GENERAL HOSPITAL
El Paso, Texas 79920

HOSPITAL REGULATION
NUMBER 40-2-23

23 March 1971

OPERATIONS OF THE CENTRAL APPOINTMENT SYSTEM

1. References.

- a. AR 40-3
- b. AR 40-121
- c. AR 40-330
- d. AR 40-419

2. Purpose. The purpose of this regulation is to establish procedures, responsibilities and methods of accounting for outpatients, scheduled and non-scheduled, through the Central Appointment System and through Data Processing.

3. General.

a. The Outpatient Report, RCS MED 80 (R1), is compiled and produced by automatic data processing procedures set forth in this Hospital Regulation.

b. The Central Appointment Section, Department of Clinics and Community Health Care Services, serves as the control center of input to data processing operations for accumulation of statistics concerning outpatients receiving medical treatment.

c. The Central Appointment Section operates Monday through Friday through telephone appointments only. The appointment system is automated to serve 200 appointments per hour, 1600 appointments per day. ~~Transfer facilities are available within the telephone system for transferring select telephone calls to any telephone within the hospital.~~ A telephonically taped message provides information during non-operational hours.

4. Procedures.

a. Appointments for participating clinics will be processed according to limitations submitted in writing monthly or quarterly, as desired by the Chief of the Clinic. Operating procedures submitted provide guidance to appointment clerks in the Central Appointment Section. Responsibility for scheduling appointments, assigning identification numbers to each physician or principal, and for furnishing correct information to patients is assigned to the Central Appointment Section. Revisions in operating procedures will be submitted in writing by the Chief of the Clinic six weeks in advance of effective appointment day. Revisions in operating procedures will be submitted to the Chief, Department of Clinics and Community Health Care Services.

b. Appointment Schedules, WBGH Forms 11-114, for physicians will be submitted six weeks in advance of the first appointment day in the applicable calendar month. ~~Schedules will be submitted for two months. For example, the schedule for March and April 1971 should be submitted no later than 15 January 1971.~~ This will be strictly adhered to. Requests for exceptions will be submitted in writing to the Chief, Dept Clinics and CHC Servs. This Hospital Regulation supersedes HR 40-2-23, WBGH, dtd 3 Nov 69, and Changes 1-4 thereto.

c. Master decks of appointment cards are prepared from physicians' schedules, using clinic codes and physician identification codes. These ADP cards comprise Appointment Source Documents.

d. The Appointment Card, WBGH Form 11-113, represents one available appointment interval for the individual doctor or principal concerned. Appointment cards for two months are filed in a rotary file, the Clinic Appointment Register. Cards are filed by clinic, physician, and calendar day.

e. Appointment clerks receive appointments by telephone. This procedure does not exclude appointments by mail. The appointment clerk will make an appointment by removing a card for the appropriate time and recording the required information on the card. The appointment card is placed in a completed compartment. Patient's name will be legibly printed on the card. Information will be keypunched into the WBGH 11-113 ADP Card. Completed appointment cards are keypunched throughout a day by Central Appointment clerks. Cards are filed systematically by clinic in a closed appointment file until 1600 hours two days before appointment day (a one-day interval).

f. If an appointment is cancelled, Central Appointment personnel will remove the prescheduled appointment card from the closed appointment file and reduplicate the card as an available appointment. The open appointment card will be placed in the rotary appointment register.

g. If a physician desires cancellation of previously scheduled appointments in excess of two hours, he will initiate and complete a WBGH Form 11-111 (Clinic Change Request), in triplicate. The Clinic Change Request will be submitted no later than one month prior to the date appointments are to be cancelled. When the Central Appointment Section receives a completed WBGH Form 11-111, the Supervisor, Central Appointment Section, will coordinate cancellations with the receptionist in the clinic concerned. The receptionist in the clinic will call and inform the patient of necessary cancellation. The receptionist in the clinic will inform the patient to call the Central Appointment Section for a new appointment.

h. Re-appointments will be processed by the physician completing a WBGH Form 11-112 (Appointment Memorandum) requesting a re-appointment. This completed memorandum is furnished to the patient. A patient will be informed to call the Central Appointment Section, telephone number 568-2211, as soon as possible for a re-appointment. If a receptionist obtains an appointment for a patient, the receptionist or secretary will furnish the patient with a completed WBGH Form 11-38 (Appointment Slip). This Appointment Slip confirms appointment time and serves as a reminder of appointment.

i. Two days prior to date of scheduled appointments, at 1600 hours, the Supervisor of the Central Appointment Section will assemble keypunched appointment cards for the specific clinic day. The Supervisor will insure that cards are safely delivered to the Data Processing Branch. From these appointment cards, the Data Processing Branch will prepare machine listings to include consolidated alphabetical rosters of all appointed patients for clinics. These alphabetical lists will be used for retrieving medical records for outpatients. Also, lists will be prepared for each physician in each clinic. These automated lists will be delivered to the Central Appointment Section, reviewed and placed in distribution boxes by 0800 hours each workday. Clinic appointment lists will be delivered to clinics by messenger service under the direction of the Supervisor, Central Appointment Section, not later than 1000 hours one day before appointment day.

j. Medical records for outpatients will be delivered to clinics on the one-day interval by 1000 hours for appointments the following morning, and by 1500 hours for appointments the following afternoon. Medical records will be delivered by messenger assigned to the Patients Administration Division.

k. X-rays will be furnished on a routine basis, as requested by the Chief of each participating clinic, for individual patients or for all patients. Appointment card will contain an "X" in the space provided on the appointment card. The "X" for x-rays will appear on the "print-out". An alphabetical roster of appointments for each clinic will be furnished routinely to Radiology. X-rays will be prepared by Radiology personnel for delivery by the messenger assigned to the Central Appointment Section. Appointment rosters and x-rays will be delivered between 0800 and 1000 hours and 1500 and 1600 hours each workday. Radiographic reports, as available, will be delivered to specific delivery points designated at the same time x-rays are delivered.

l. When a patient is given a "late" appointment, a receptionist will add the name of the patient to the printed appointment roster. The receptionist will complete a Data Processing Source Document Card, WBGH Form 11-113, for any patient attended by a physician or principal when that patient's name has not been printed on the original roster of appointments for that specific clinic day. The following columns on the ADP Card (WBGH Form 11-113) will be completed for non-scheduled patients: 75-76, 77-78, 79-80, 25-26, 27, 28-29, 30, 31 and 32. For patient classification codes for Columns 28-29, refer to Inclosure 2 to this regulation.

m. Clinics will receive two copies of rosters. One copy of the completed roster will be returned to the Central Appointment Section with ADP Source Document cards for "non-scheduled" or "late" appointments. These records will be furnished to the messenger service at 0900 hours when the next clinic appointment rosters are delivered to the clinic.

n. Personnel of the Central Appointment Section will keypunch and verify ADP Source Document cards daily as submitted by clinics for non-scheduled appointments.

o. Outpatients seen after 1630 hours by physicians assigned to specific wards will be processed and accounted for as non-scheduled appointments. ADP cards (WBGH Form 11-113) will be prepared in compliance with paragraph 4.1. above. Applicable outpatient clinic codes will be used for these patients. For example: For Pediatric outpatients treated on Ward 20, Clinic Code KA will be used; for surgical outpatients treated after 1630 hours on wards assigned to Department of Surgery, clinic code SO will be used. ADP cards prepared by ward personnel will be sent daily, Monday through Friday, to the Central Appointment Section, Bldg 7075. At no time will these ADP cards be accumulated. ADP cards will be sent to the Central Appointment Section no later than 1200 hours on the last working day of the calendar month.

p. The Data Processing Branch will provide print-outs of the statistical data for the Monthly Outpatient Report (RCS MED 80 (R1)) to the Patient Administration Division no later than the third working day of the month.

q. Adjunct Services will submit feeder reports on a Disposition Form, DA Form 2496, to the Central Appointment Section no later than the first day of each month. The feeder report will show the number of "inpatients" and the number of "outpatients treated, procedures or other data required by AR 40-419. Adjunct Services and Clinics are listed in Inclosure 1 to this regulation.

5. Responsibilities:

a. Chiefs, Administrative and Professional Services, will:

(1) Insure that Chiefs of all Departments or Services carry out responsibilities to the Central Appointment Section, Department of Clinics and Community Health Care Services.

(2) Provide periodic evaluation of services provided Clinics.

b. The Chiefs of Department will:

(1) Insure that Chiefs of individual Clinics carry out their responsibilities to the Central Appointment Section.

(2) Approve or disapprove Clinic Schedule Change Requests, WBGH Forms 11-111. (Routing instructions are written on the form.)

(3) Provide a WBGH Form 11-111 (Clinic Change Request) to each doctor or principal, insuring that this form is initiated in triplicate when previously scheduled appointments are to be cancelled. Completed WBGH Form 11-111 is required if period of time exceeds two hours. Completed WBGH Form 11-111 will be submitted to the Chief of the Department one month in advance of absence.

(4) Notify the Supervisor, Central Appointment Section, when a new physician or principal is assigned to a clinic. An identification number will be assigned to the physician or principal by the Supervisor of the Central Appointment Section.

(5) Insure that a patient is furnished a confirmation Appointment Form, WBGH Form 11-38, if a re-appointment is processed through the Central Appointment System by a receptionist or secretary.

(6) Maintain close coordination with the Supervisor, Central Appointment Section.

c. The Chief of each individual Clinic, with the assistance of individual physicians or principals, will:

(1) Submit operating procedures for guidance in appointing patients six weeks in advance of effective appointment day. These instructions will become a section of appointment procedures used in the Central Appointment Section. Operating procedures will include:

(a) Guidance in scheduling appointments for specific clinic.

(b) Number of clinic sessions per week.

(c) Time intervals for scheduling specific types of patients.

(d) Number of physicians available for consultations in specialized clinics.

(e) Full name and rank of each physician assigned.

(f) Limitations, if applicable, upon any physician's or principal's availability, i.e., possible conferences, travel, etc.

(g) Include any specific instructions concerning appointment of patients.

(2) Submit a request to the Comptroller, Management Assistance Branch, for statistical data in the Monthly Outpatient Report or for information appearing on the Appointment Source Document, WBGH Form 11-113.

d. Clinic Receptionists and Secretaries will:

(1) Initiate a WBGH Form 11-113 (Appointment Card) for each patient classified as a "non-scheduled" or "walk-in" patient. Information obtained from the patient will be entered on the ADP card in red ink or red pencil. Detailed instructions for completing cards have been included in instructions furnished each receptionist or secretary. Patient classification codes are included in Inclosure 2 to this regulation.

(2) Place a check mark beside each patient's name when he arrives in the clinic, or write "cancellation" or "no-show" beside the name of a patient if he does not arrive in a clinic.

(3) Insure that completed ADP Source Documents (WBGH Form 11-113) and corrected doctor-principal rosters are furnished the messenger service in a closed envelope by 0900 hours the day following the clinic day.

(4) Insure that prepared rosters and completed ADP cards are obtained by the messenger service daily by 1000 hours.

(5) Add the name of each patient provided a "late" appointment to the copy of the clinic appointment roster. Complete other columns of information on the roster when a non-scheduled patient arrives in a clinic.

(6) Assist in orientation of patients to the Central Appointment System by informing patients to call 568-2211 for appointments and re-appointments.

(7) Coordinate problems, if any, or suggestions with the Supervisor, Central Appointment Section.

e. The Chief, Department of Clinics and Community Health Care Services, will:

(1) Assume organizational responsibilities for the Central Appointment System.

(2) Provide direct supervision, guidance, and support to the Supervisor, Central Appointment Section.

(3) Provide coordinating, evaluating and other administrative functions for the Central Appointment Section with the Chiefs of Professional and/or Administrative Services or other organizational elements, and as necessary to higher headquarters.

(4) Maintain frequent liaison, through the Supervisor of the Central Appointment Section, with Chiefs of Clinics, Departments and Services as a means of appraising the system.

(5) Provide continuous evaluation of service to clinics.

f. The Chief, Patients Administration Division, will:

(1) Provide supervision and orientation of personnel in the Outpatient Records Section to insure the operation necessary for support of the Central Appointment System.

(2) Provide suggestions for improvement of the Central Appointment System to the Chief, Department of Clinics and Community Health Care Services.

(3) Revise applicable hospital regulations to provide efficient outpatient reporting in coordination with the Chief, Department of Clinics and Community Health Care Services, and with Chiefs of Departments.

g. Chiefs of Adjunct Services (Pharmacy, Pathology, and Radiology) will submit feeder reports recording workload data for the Monthly Outpatient Report (RCS MED 80 (R1)) to the Central Appointment Section no later than 0800 hours on the first day of each month. ADP cards will be keypunched by the Central Appointment personnel and forwarded to the Data Processing Branch.

h. The Chief, Data Processing Branch, with the assistance of assigned personnel, will:

(1) Order supply of WBGH Forms 11-113 (Appointment Source Document) and maintain an adequate supply level of Appointment Source Documents and other data processing supplies to support the Central Appointment System.

(2) Receive, program into the computer, and create the mechanized automated products, as required and requested for the efficient operation of the Central Appointment System, within existing capabilities.

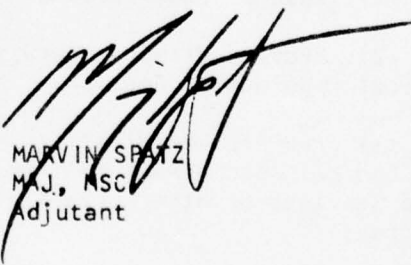
(3) Maintain direct and close coordination with the Central Appointment Section, providing technical guidance and suggestions for the improvement of this system.

(4) Fulfill operational and other responsibilities to the Central Appointment System according to established Standing Operating Procedures and this directive.

CI
1401172
The proponent agency of this regulation is the ~~Comptroller~~ ^{Dept. Chief, CHC Svcs} Users are invited to send comments and suggested improvements to ~~Comptroller~~ ^{Chief, Dept. of Clinics & CHC Svcs}

FOR THE COMMANDER:

- 2 Incl
1. List of Clinics & Adjunct Svcs
2. List of Patient Classification Codes (deleted)


MARVIN SPATZ
MAJ, MSC
Adjutant

DISTRIBUTION:
Routine - plus
100 - Comptroller
25 - File

William Beaumont General Hospital
Appointment Record
(WBGH Form 11-113)

36-1

APPENDIX 37

PHYSICIANS CLINIC SCHEDULE WILLIAM BEAUMONT GENERAL HOSPITAL

NAME: _____ FOR _____ 19 _____
CODE: _____

APPROVED BY: _____

	CLINIC	DATE	CLINIC	DATE	CLINIC	DATE	CLINIC	DATE	CLINIC	DATE
M	AM									
O	PM									
N										
T	AM									
U	PM									
E										
W	AM									
E	PM									
D										
T	AM									
H	PM									
U										
F	AM									
R	PM									
I										

REMARKS:

WBGH FORM 11-114
19 JUN 69

Army, Fort Bliss, Texas 79318-V4

APPENDIX 38

Fitzsimons General Hospital Appointment Record (FGH Form 1277)

PATIENT'S NAME (LAST, FIRST, MIDDLE INITIAL)		AGE	SEX	SPONSOR'S SSN	PHONE NO.	SPC	TO	SPONSOR'S	DEL	24-25	26-30	DR NO	APPT TIME	DAY	MO	CLINIC	
PATIENT'S PHONE NO.		62	M	PATIENT'S NAME													
COL 38-42		43	F	1-21													
PATIENTS APPOINTED THIS DAY ONLY												SCHEDULE CODE (44)		PERSONNEL CATEGORY CODES (51-53)			
DAY OF WEEK	DD	MM	YY	TIME OF VISIT	DAY OF MONTH	MONTH	YEAR	CLINIC	1 DD		2 DD		3 DD		4 DD		
DD	MM	YY	MM	YY	DD	MM	YY	DD	1 DD		2 DD		3 DD		4 DD		
PHY MED TEST RESULTS (46)		EXAMINATIONS / IMMUNIZATIONS (54-56)				CARE GROUP (57-59)		THER/DIAG/PROC (60-62)		3 LATE CARE		RECORD CODE (63)		600 BAY / BAYONE		470 BAY / MARINE	
TO POSITIVE		340 FLY NC DUTY PHYS				401 TETANUS		700 CHEST / RAC		000 DGC THERAPY		RECORD CODE (63)		600 BAY / BAYONE		470 BAY / MARINE	
2 TO NEGATIVE		350 BFN CONP MED EXAM				402 SMALL POX		770 ALLERGIC DISORDERS		000 PHY THERAPY		1 HOSPITAL RECORD		670 USCG / PMS / ESSA		400 USCG / PMS / ESSA	
3 TO CONTR INTERVIEW		351 AFE EXAL				403 TYPHOID		780 DEEP/PSYCH		000 ARMY HLTH BSSRG		2 NO BSSRG		DEPENDENTS		500 REP 63 ACOUTRA	
4 PMS R / DEFEND		360 LTD EXAM / TEST				404 PLACQUE		790 EYE ADHERA		011 AND - DORE		3 PEDS DECODE		000 AN ARMY		510 OTHER ARMY	
5 PHL R / DEFEND		361 REPRATIONC				405 CHOLERA		800 EAR NOSE THROAT		012 AND - OFFICE		PATIENT STATUS (40)		000 AD BAY / MARINE		520 OTHER US MIL	
6 PHL R / DEFEND		362 VISION TEST				406 DAT		810 RESPIRATORY		013 AND - WARD		1 INPATIENT		010 AD AIR FORCE		530 CAPETS, US	
7 VT PRES GLASSES (65)		363 ETC				407 DPT		820 STREPTOCOCCAL		014 AND - SCHOOL		2 OUTPATIENT		020 AD USCG / PMS / ESSA		540 OTHER	
8 VT PLANO GLASSES (55)		364 BLOOD/DOSE EXAM				408 POLIO		830 OBSTETRICAL		015 AND - CLINIC		3 QUARTERS		030 R/D ARMY		550 US CIV / NE PRISONER	
9 HEAD PROTECT (66)		365 HARBARD PMS				409 MEASLES, RUBELLA		840 DENTATOLOGICAL		016 PSYCHIATRIC EVAL		400 B/D BAY / MARINE		040 R/D BAY / MARINE		560 FOREIGN - BAY	
0 BOWER		366 HEARING TEST				410 MEASLES, RUBELLA		850 MUSCULOSKELETAL		017 RADIOLOGIC THER		1 UNDER 1 YEAR		050 R/D AIR FORCE		700 POW / INT / RETIRO	
DCC HEALTH VISIT (47)		367 TB SKIN TEST				411 Mumps		851 BRAKE		018 X-RAY THERAPY		2 1-4 YEARS		060 R/D USCG / PMS / ESSA		710 OTHER FOREIGN MIL	
1 HEAR / VISION HAZARD		368 OTHER TEST / FLAM				412 BAY WITH SPOT FEVER		852 CAST		019 RADIOISOTOPE THER		3 5-9 YEARS		070 US CIV ENPL		720 OTHER FOREIGN CIV	
2 HEAR / VISION SAFE		369 BCR EXAM / TESTS				413 INFLUENZA		860 BATTLE CASUALTY		020 CRPAT EDUCATION		4 10-14 YEARS		080 OTHER SPONSORS		730 DEC DEFICIARIES	
3 HEAR / VISION RETURN		370 F000 HANDLERS				414 YELLOW FEVER		870 AND BATTLE INJURY		021 CRP PEDS EDUCATION		5 15-20 YEARS				740 OTHER CIV ENPL	
SPED PROG (48)		380 PERIODIC EXAM TMR				415 TYPHUS		880 OTHER CONDITIONS		022		6 21-24 YEARS				750 FGN CIV ENPL	
1 OCCUPATIONAL HEALTH		390 INIT PREMAT CARE				416 HADIES				023		7 40-64 YEARS				750 OTHER PERSONNEL	
AND CODE (68)		400 IMMUNIZATIONS, ETC.				417 GABINO-BLOODLIN				024		8 65 & OVER					

APPENDIX 39

HEADQUARTERS U. S. ARMY MEDICAL DEPARTMENT ACTIVITY Fort Benning, Georgia 31905

REGULATION
NUMBER 40-42

10 May 72

Medical Service CENTRAL APPOINTMENT DESK

1. Purpose: The purpose of this regulation is to outline the general policies and procedures for the effective operation and utilization of the Central Appointment Desk.
2. Function: The function of the Central Appointment Desk is to schedule appointments for various hospital clinics only. Calls for information only are inappropriate and should be placed or referred to the Hospital Information Desk at 544-2041. Incidental information dispensing may be performed by appointment desk receptionist but is discouraged because the maximum utilization of lines for appointment bookings is necessary to handle the traffic in appointment demands.
3. Procedures:
 - a. Clinics will utilize the appointment desk by concurrence of the Chief of Professional Services, the Clinic Chief, and the Chief of the Department of Clinics. This concurrence will follow consideration of relative receptionist strengths of clinic and appointment desk and of the traffic prevalent over the appointment desk telephones.
 - b. Appointment transactions will include at a minimum the recording of:
 - (1) Military patient's name, unit, rank, SSAN and telephone number.
 - (2) Dependent patient's name and sponsor's name, rank, SSAN and telephone number.
 - c. When time permits the appointment desk clerks will remind callers to have their identification card and medical card in hand for clinic visits. Responsibility for utilization of these cards lies with the clinics.
 - d. Priorities in appointment bookings will be established by individual clinic chiefs and submitted as a written guideline to the appointment desk for reference. In general, active duty care is the first priority. A log book will be maintained of directives from clinics.
 - e. Completed appointment bookings will be submitted to outpatient records section at the close of the working day two (2) days before appointments at MHI, Building 9200 and one (1) day before appointments in Building 396.
 - f. The receptionist at the Central Appointment Desk will greet the public by telephone only. The desk will be closed to all in-person patient visits.

*This regulation supersedes MEDDAC Regulation 40-42, dated 4 Jun 69.

g. It will not be the responsibility of the desk to challenge persons desiring appointments to clinics which are by referral only. A polite declaration will be made that a preliminary visit to either a Troop Medical Clinic, Outpatient Clinic or the Pediatric Clinic is necessary and an appointment will be offered for the preliminary visit. Arguments will not be permitted. Refer all dissatisfied persons to supervising officer or clinic chief as appropriate.

4. Responsibility: The Central Appointment Desk will function under the supervision of the Chief, Department of Clinics.

AJIMA-H-C

FOR THE COMMANDER:

G. P. RHOADS, JR.
MAJOR, MSC
Adjutant

DISTRIBUTION:

A

Dr.

DATE:

BLDG 396

[illegible]

APPENDIX 41

HEADQUARTERS
UNITED STATES DARNALL ARMY HOSPITAL
Fort Hood, Texas 76944

HOSPITAL REGULATION

NUMBER _____

30 November 1972

OPERATION OF THE CENTRAL APPOINTMENT SYSTEM

1. Purpose: The purpose of this regulation is to establish procedures, responsibilities and methods of appointing clinic patients on a scheduled basis through a Central Appointment System.
2. General: The Central Appointment Section operates Monday through Friday through telephone appointments only. The appointment system is automated to serve approximately 120 appointments per hour, or up to 900 appointments per day. Transfer facilities are not available within the telephone system for transferring select telephone calls to any telephone within the hospital. A telephonically taped message provides information during non-operational hours.
3. Procedures:
 - a. Appointment for participating clinics will be processed according to limitations submitted in writing by the Chief of the Clinic. Operating procedures submitted provide guidance to appointment clerks in the Central Appointment Section. Responsibility for scheduling appointments and furnishing correct information to patients is assigned to the Central

Appointment Section.

b. Appointment Schedules for physicians will be submitted six weeks in advance of the first appointment day in the applicable calendar month. Schedules will be submitted for two months. For example, the schedule for March and April 1972 should be submitted no later than 15 January 1972.

c. Appointment cards are prepared from physicians' schedules.

d. The Appointment Card represents one available appointment day for the individual doctor or principal concerned. Appointment cards for two months are filed in a rotary file, the Clinic Appointment Cards are filed by clinic, physician and calendar day. Blank cards will be used when no appointment times are available.

e. Appointment clerks receive appointments by telephone. This procedure does not exclude appointments by mail. The appointment clerk will make an appointment by recording the required information on the card. Patient's name will be legibly printed on the card. Cards are filed systematically by clinic in an appointment file until 1430 hours one day before appointment day.

f. If an appointment is cancelled, Central Appointment personnel will remove the appointment from the file, and where feasible schedule another patient.

g. If a physician desires cancellation of previously scheduled appointments, he will use a Disposition Form (DA

Form 2496). The Disposition Form will be submitted to the Chief, Department of Clinics no later than one month prior to the date appointments are to be cancelled, except when he is ill or placed on emergency leave.

h. Revisions in a Doctor's Schedule: A Disposition Form (DA Form 2496) will be used when it is necessary to revise previous appointment schedule. This form will be submitted to the Chief, Department of Clinics. Revision in a doctor's schedule will be accepted no later than one month before absence occurs; except, when he is ill or placed on emergency leave, a change in schedule may be submitted. Upon receipt of a completed and approved Disposition Form, the Central Appointment Section will call the appointed patients, cancel the appointment involved and attempt to re-appoint the patient in an open appointment time. Re-appointments will be according to the request of the physician involved.

1. At 1430 hours prior to date of scheduled appointments, the Central Appointment Section will disassemble the three-part appointment card for the next clinic day. The supervisor will insure that part 1 of the card is delivered to the appropriate clinic receptionist. Part 3 is retained by the Central Appointment Section. Part 1 of the card will be used for retrieving outpatient medical records. Part 2 of the card will be used for clinics and physicians information.

4. Responsibilities:

a. Chiefs, Administrative and Professional Service will:

- (1) Insure that Chiefs of all Departments or Services carry out responsibilities to the Central Appointment Section.
- (2) Make periodic evaluation of Central Appointment Section services provided Clinics.

b. The Chief, Department of Clinics will:

- (1) Assume organizational responsibilities for the Central Appointment System.
- (2) Provide direct supervision, guidance and support to the Supervisor, Central Appointment Section.
- (3) Provide coordinating, evaluating and other administrative functions for the Central Appointment Section with the Chiefs of Professional and/or Administrative Services or other organizational elements, and as necessary to higher headquarters.
- (4) Maintain frequent liaison, with the Supervisor of the Central Appointment Section and Chiefs of Clinics, Departments and Services as a means of appraising the system.
- (5) Provide continuous evaluation of service to clinics.
- (6) Insure that Chiefs of individual Clinics carry out their responsibilities to the Central Appointment Section.
- (7) Approve or disapprove Disposition Form DA 2496 (Clinic Schedule Change Request).
- (8) Insure that a patient is furnished an Appointment Form, DA Form 8-97, if an appointment is processed through the Central Appointment System by a receptionist or secretary.

(9) Maintain close coordination with the Supervisor, Central Appointment Section.

c. The Chief of each individual Clinic, with the assistance of individual physicians, will:

(1) Submit operating procedures for guidance in appointing patients six weeks in advance of effective appointment procedures used in the Central Appointment Section.

Operating procedures will include:

(a) Guidance in scheduling appointment for specific clinic.

(b) Number of clinic sessions per week.

(c) Time intervals for scheduling specific types of patients.

(d) Number of physicians available for consultations in specialized clinics.

(e) Full name and rank of each physician assigned.

(f) Limitations, if applicable, upon any physician's availability, i.e., possible conferences, travel, etc.

(g) Include any specific instructions concerning appointment of patients.

(2) Provide a Clinic Change Request to each doctor insuring that this form is initiated when previously scheduled appointments are to be cancelled. Completed Disposition Form will be submitted to the Chief of the Department of Clinics one month in advance of absence.

(3) Notify the Supervisor, Central Appointment Section, when a new physician is assigned to a clinic.

d. Clinic Receptionists and Secretaries will:

(1) Assist in orientation of patients to the Central Appointment System by informing patients to call 685-2137 or 526-6661 for appointments and re-appointments.

(2) Coordinate problems, if any, or suggestions with the Supervisor, Central Appointment Section.

5. References:

- a. AR 40-3
- b. AR 40-121
- c. AR 40-330
- d. AR 40-419

FOR THE COMMANDER:

Appts From 0800 hrs to 1100 hrs incl
and From 1300 hrs to 1530 hrs incl

#1 HOOD

Podiatry CLINIC

AM

DAY OF MONTH		MON	TUES	WED	THUR	FRI	SAT
NAME							
New Pts - 5 ea	R F U - 10 ea	Mil	Dep	None (Wd Rds)	Surgery	Dep	
0800	0800						
0900	0815						
0930	0845						
1000	0915						
1100	0930						
	0945						
	1000						
	1015						
	1030						
	1045						
PM							
NAME		MON	TUES	WED	THUR	FRI	SAT
New Pts - 5 ea	R F U - 10ea	Mil	Dep	Mix Mil & Dep	Surgery	Mil	
1300	1300						
1400	15						
1430	30						
1500	45						
1530	1400						
	15						
	30						
	45						
	1500						
	15						

CLINICS OPERATE FROM 0730 - 1130, 1230 - 1630; CLINIC CHIEFS MUST INDICATE TIME INTERVAL/PATIENT WITH INTERVALS REQUIRED FOR EMERGENCY REFERRALS. THIS NEED ONLY BE INDICATED ONCE, UNLESS A CHANGE IS ANTICIPATED. INITIALLY A TWO MONTH PROPOSED SCHEDULE MUST BE SUBMITTED. AFTER THIS INITIAL PERIOD, WEEKLY SCHEDULES MUST BE SUBMITTED TO THE CENTRAL APPOINTMENT DESK. ADDITIONALLY, ANY CHANGES TO THESE SCHEDULES MUST BE SUBMITTED THROUGH THE CHIEF, DEPT OF CLINICS, AS FAR IN ADVANCE AS POSSIBLE.

APPENDIX 42

Darnall Army Hospital
Sample Clinic Schedule

Darnall Army Hospital
Appointment Card for Morning Appointments

[illegible]

Darnall Army Hospital
Appointment Card for Afternoon Appointments

44-1

Darnall Army Hospital
New Appointment Card (Draft)

45-1

APPENDIX 46

Clinics Not on CAS
Phase II

WBGH

Cardiology
Audiology
ENT
Neurosurgery
Ophthalmology
Pediatric cardiology
Pediatric chest disease
Pediatric tuberculosis
Pediatric developmental evaluation
Pediatric psychiatry
Pediatric well child (over 1 year)
Speech therapy
Obstetrics postpartum
Gynecology oncology
Gynecology return pap smear
Gynecology postoperative
Pulmonary function
Psychiatric (adult)
Psychiatric (children)
Mental hygiene
Social work
Family clinic
Emergency clinic (ER)
Physical therapy
Occupational therapy
Inhalation therapy
Immunization
Radiation therapy
Physical examination
Army health nurse
Dental

TOTAL 31

FGH

Cardiology	Tuberculosis outpatient
Gynecology preoperative	Inhalation therapy
Gynecology postoperative	Pulmonary function
EEG	Radiation therapy
Psychiatry	Radioisotope
Psychology	Radiology
Child guidance	Thoracic Surgery
Social work-adult consultation	Well-Baby
Neurosurgery	Adolescent-general
Obstetrics	Adolescent allergy
Obstetrics-complicated	Adolescent neurology
Occupational therapy	Adolescent endocrinology
Physical therapy	Adolescent hematology
Vision testing	Adolescent renal
Audiology	Endocrinology/infertility
Speech therapy	Therapeutic abortion and sterilization
Pediatrics-general	Endocrinology
Pediatric neurology	Preventive medicine
Pediatric renal	Immunizations
Pediatric hematology	Physical examination
Pediatric endocrinology	Emergency clinic (ER)
Pulmonary disease	Dental
	<hr/>
	TOTAL 44

MAH

ENT

Cardiology

Ophthalmology

Obstetrics

Gynecology

Occupational therapy

Physical therapy

Proctology

Endocrinology

Gastroenterology

Rheumatology

Nephrology

Internal medicine

Hematology oncology

Neurology

Thyroid

Radioisotope

Diabetic

Mental hygiene

Family practice

Emergency Clinic (ER)

Immunization

Physical examination

Tuberculosis followup

Social Work

Dental

TOTAL 26

DAH

Urology
Physical therapy
Mental hygiene
Social work
Radiology
Dental
Immunization
Emergency clinic (ER)
Minor surgery
Allergy injections
Preventive medicine (venereal disease)
Physical examinations
TOTAL 12

APPENDIX 47

Length of Average Telephone Calls (Time in Minutes)

The length of the average telephone call to the CAS was determined by timing with a stopwatch 100 consecutive calls to 4 or 5 clerks. An appointment call was defined as any call that dealt directly with the appointment-making process: making, cancelling, or verifying an appointment. An information call was defined as a call that only requested information, such as hours of clinic operation, location of clinics, procedures for getting seen in clinics that were not on the CAS, etc.

WBGH

<u>Clerk No.</u>	<u>All Calls</u>	<u>Appt. Calls</u>	<u>Info. Calls</u>
1	1.35	1.73	.63
2	2.20	2.30	.91
3	2.43	2.61	.74
4	1.94	2.03	.18
5	1.58	1.68	.99
TOTALS	9.50	10.35	3.45
AV.	1.90	2.07	.69

FGH

<u>Clerk No.</u>	<u>All Calls</u>	<u>Appt. Calls</u>	<u>Info. Calls</u>
1	1.76	2.29	.97
2	1.48	1.82	.90
3	1.58	2.00	.73
4	1.41	1.84	.90
5	2.29	3.01	1.00
TOTALS	8.52	10.96	4.50
AV.	1.70	2.19	.90

MAH

<u>Clerk No.</u>	<u>All Calls</u>	<u>Appt. Calls</u>	<u>Info. Calls</u>
1	2.17	2.48	1.60
2	2.03	2.51	.74
3	1.28	1.68	.67
4	1.92	2.53	1.12
5	1.64	1.89	.60
TOTALS	9.04	11.09	4.73
AV.	1.81	2.22	.95

DAH

<u>Clerk No.</u>	<u>All Calls</u>	<u>Appt. Calls</u>	<u>Info. Calls</u>
1	1.76	2.13	.88
2	1.89	2.37	.92
3	1.49	1.87	.97
4	2.75	3.28	1.85
TOTALS	7.89	9.65	4.62
AV.	1.97	2.41	1.16

APPENDIX 48

Lost Telephone Calls William Beaumont General Hospital

The following data was obtained by the Central Telephone Office,
Communications and Electronics Division, Ft. Bliss, Texas.

	(a) Total Calls to CAS	(b) Calls Taken by CAS	(a-b) Lost Calls	Av. No. Clerks on Phones*
13 Nov 72 (Mon)	1867	1189	678 (36.3%)	6.0
14 Nov 72 (Tues)	1260	932	328 (26.0%)	4.8
15 Nov 72 (Weds)	1231	934	297 (24.1%)	4.8
16 Nov 72 (Thur)	1145	784	361 (31.5%)	4.4
17 Nov 72 (Fri)	1032	767	265 (25.6%)	4.9
	6535	4606	1929 (29.5%)	

* Provided by Mrs. K. Jones, CAS Supervisor.

APPENDIX 49

Cancellation and No-Show Rates

WBGH (October 1972, reported by clinics and the CAS)

<u>Clinic</u>	<u>Appts. Made</u>	<u>Appts. cancelled by patient</u>	<u>Patient No-Shows*</u>
Allergy	84	9	
Chest	58		
Dermatology	480	39	3
Gastroenterology	161	8	
General Outpatient	869	33	4
Hematology	93	1	
Neurology	63	6	
Nutrition	63		
Obstetrics	1,454	110	117
Gynecology	1,448	206	163
Orthopedics	1,204	54	61
Pediatrics	2,191	130	79
Plastic Surgery	64	3	
Podiatry	143	12	14
Radioisotope/endocrin.	208		
Renal	130		
Rheumatology	130	5	
Surgical	752	18	5
Urology	403	10	
<u>TOTALS</u>	<u>9,998</u>	<u>644 (6.4%)</u>	<u>446 (4.5%)</u>

*Patients who do not keep their appointments, and who give no prior notice that they will not.

FGH (October 1972, reported by the CAS supervisor)

Appointments made	7617
Cancellations by patients	
prior to day of appointment	195
Cancellation day of appointment	<u>178</u>
Total Cancellations	373 (4.9%)
Patient No-Shows	135 (1.8%)

MAH (November 1972, calculated from old clinic appointment rosters)

<u>Clinic</u>	<u>Appts. Made</u>	<u>Cancellations</u>	<u>No-Shows</u>
Orthopedic	592	23 (3.9%)	108 (18.2%)
Pediatric	650	35 (5.4%)	69 (10.6%)
OPC	787	39 (5.0%)	82 (10.4%)
Urology	352	13 (3.6%)	101 (28.6%)
<u>TOTALS</u>	<u>2,381</u>	<u>110 (4.6%)</u>	<u>360 (15.1%)</u>

DAH (November 1972, calculated from old clinic appointment rosters)

<u>Clinic</u>	<u>Appts. Made</u>	<u>Cancellations</u>	<u>No-Shows</u>
Pediatric	682	69 (10.1%)	76 (11.1%)
Ophthalmology	323	40 (12.4%)	37 (11.5%)
ENT	557	47 (8.4%)	47 (8.4%)
Optometry	597	46 (7.7%)	30 (5.0%)
Well-Baby	96	-	19 (19.8%)
Audiology	50	1 (2.0%)	11 (22.0%)
TOTALS	<u>2,305</u>	<u>203 (8.8%)</u>	<u>220 (9.5%)</u>

APPENDIX 50

Appointment Intervals (New Patient/Return visit)

<u>Clinic</u>	<u>DoD Standard*</u>	<u>Rosenfeld Standard**</u>	<u>WBGH</u>	<u>FGH</u>	<u>MAH</u>	<u>DAH</u>
Family practice/ general OPC	15		15/15	15/15	30/30	15/15
Internal Medicine	30	30-45/15		45/30		45/30
Gastroenterology	30		45/30	30/30		
Hematology	30		60/30	30/15		
Endocrine/metabolic	30		30/30	60/15		
Pulmonary disease	50		30/15			
Neurology	50		60/15	30/15		60/30
Dermatology	15	13/13	15/15	20/20	30/30	15/5
Allergy	40	15/5	30/20	60/30	60/15	60/15
General surgery	20	20/15	15/15	12/12	15/15	15/15
Orthopedic	20	20/15	30/15	15/15	15/15	
Podiatry	20		15/15	15/15	15/15	30/15
Urology	20	20/15	15/15	30/30	15/15	
Plastic surgery	30		20/10	20/20		
Ophthalmology	20	15/15		30/30		30/30
Optometry	30		30/30	30/30	30/30	20/20
ENT	20	20/15		15/15		20/15
Pediatric(general)	15	20-30/15	15/15		10/10	15/15
Obstetrics	15	20/10-15	15/15			
<u>Gynecology</u>	20	20/15	15/15	20/20		15/15

*From Department of Defense "Space Planning Criteria--Department of Clinics",
draft of 12 September 1972

**From Rosenfeld, Ambulatory Care¹², 1971, p. VII-42 ("Widely accepted time
standards for office visits in the major medical specialties which reconcile
current norms of medical practice with current levels of financing of medical
services").

APPENDIX 51

Hours of Clinic Work per Week

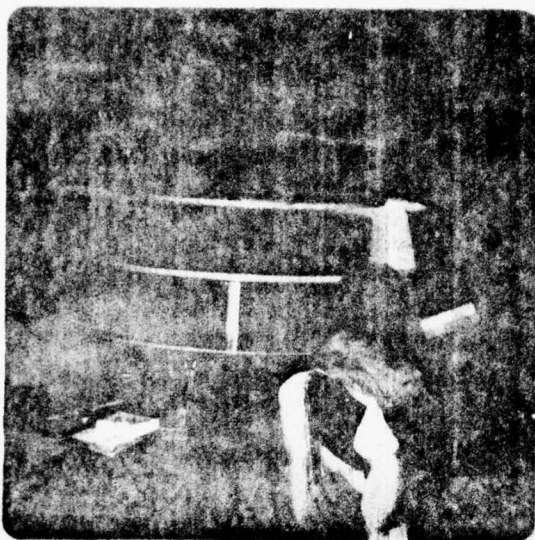
(prepared from clinic schedules furnished to CAS and hospital information brochures; numbers in parentheses indicate hours appointed by CAS)

Clinic	DoD Standard*	Rosenfeld Standard**	WRGH	FGH	MAH	DAH
Family practice/ general OPC	35		35	30	40 1/2(40 1/2)	61(17 1/2)
Internal (general) medicine	30	30				
Gastroenterology	30	30	7 1/2	25		
Hematology	30	30	10	11		35(18 3/4)
Endocrine/ metabolic	30	30		4		
Pulmonary disease	30	30	12 1/4			
Neurology	30	30	8 1/2			
Dermatology	35	30	7	8		41(21)
Allergy	35	30	21	14	21 1/2(9)	40(16)
General surgery	30	24	11 1/3	22 1/2	42 1/2(18 3/4)	40(27)
Orthopedic	30	24	14 1/2	13 1/3	10 1/2(5 1/4)	15(15)
Podiatry	35	24	21	10 1/2	26(5 3/4)	36(18)
Urology	30	24	8	18	23(19 1/2)	
Plastic surgery	30	24	11 1/4	3	28(4 1/2)	
Ophthalmology	30	24	6	6		
Optometry	35	24	32 1/2	4		27 1/2(27 1/2)
ENT	30	24		22 1/2	40(31 1/4)	32 1/2(31)
Pediatric (general)	35	30		15		25 1/2(25 1/2)
Obstetrics	30	24	30		30(10)	30(10)
Gynecology (general + complicated)	30	24	30	7 1/3		

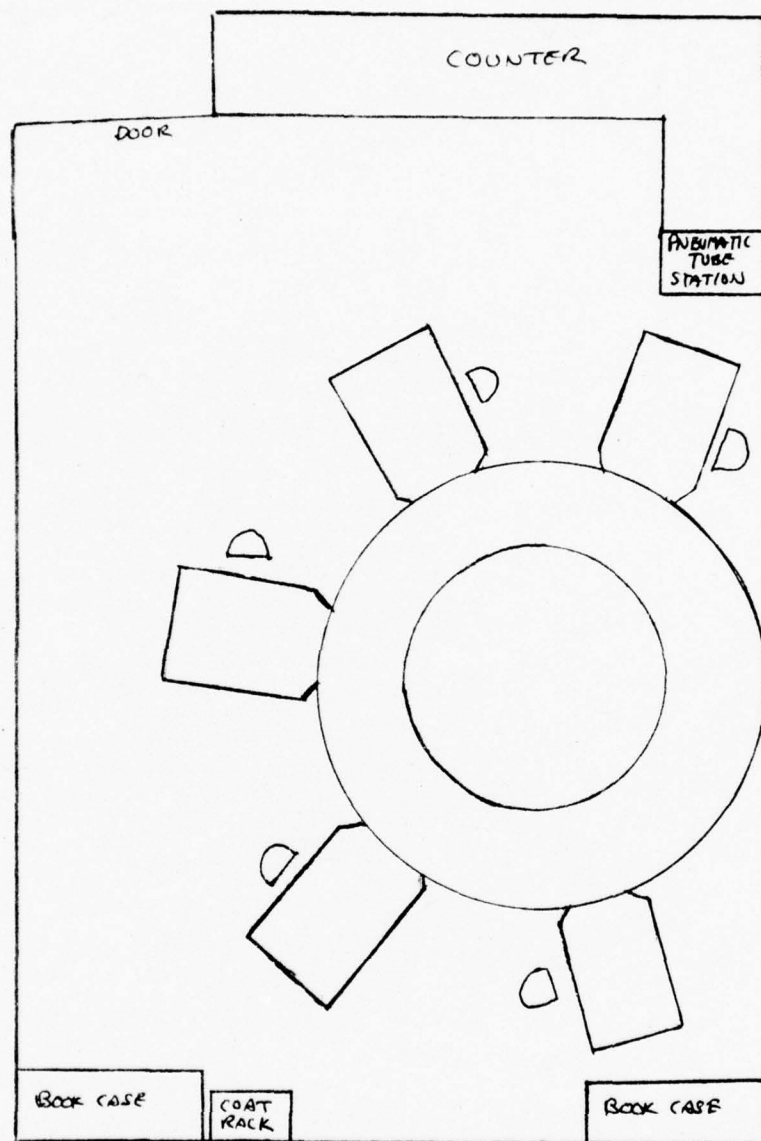
*From Department of Defense "Space Planning Criteria--Department of Clinics", draft of 12 September 1972

**From Rosenfeld, Ambulatory Care¹², 1971, p. VII-44 ("...schedules for full time staff...under an arrangement in which the physician is responsible both for ambulatory and inpatient care, including involvement in various medical staff functions...")

APPENDIX 52
Darnall Army Hospital
Rotary File



APPENDIX 53
Darnall Army Hospital
Layout of CAS Room



APPENDIX 54

William Beaumont General Hospital
Recorded Announcements
on CAS Automatic Call
Distribution System

RECORDER

7:30 AM and 1:00 PM

The appointment clerks are busy and will answer your call momentarily so please hold. Meanwhile, do you have your sponsor's social security number readily available? This information is necessary for your appointment.

Thank you. This is a recording.

NOON

The appointment desk is closed between 12 noon and 1 o'clock. Please call back between 1 and 4:30 this afternoon. The emergency room number is 569-2421 to be used only for such emergencies which cannot wait until 1 o'clock. Please do not call their number for appointments.

Thank you. This is a recording.

4:30 PM

The appointment desk is closed and will reopen at 7:30 tomorrow morning. The emergency room number is 569-2421 to be used only for such emergencies which cannot wait until 7:30 in the morning. Please do not call their number for appointments.

Thank you. This is a recording.

HOLIDAYS

The appointment desk is closed and will be closed tomorrow in observance of _____. The desk will open at 7:30 _____. A happy holiday to you. The emergency room number is 569-2421 to be used only for such emergencies which cannot wait until the desk reopens. Please do not call their number for appointments.

Thank you. This is a recording.

WORK COUNT

APPENDIX 55

"CENTRAL APPOINTMENT DESK"

MAH - DAILY

(Telephone Number)

WORK COUNT-LOG

	Calls For Appointments	Calls For Information	Total Calls	Appointments Made
<u>0800-0900</u>				
<u>0900-1000</u>				
<u>1000-1100</u>				
<u>1100-1200</u>				
<u>1200-1300</u>				
<u>1300-1400</u>				
<u>1400-1500</u>				
<u>1500-1600</u>				

Darnall Army Hospital
Weekly Appointment
Backlog Report

ALBEM-C

Nearest Available Appointment

CPT Schilder

Mrs Dowling

27 Nov 72

ENT CLINIC:

Ophthalmology: 4 Dec 72
Refraction: 29 Dec 72
Ear, Nose, Throat: 30 Nov 72
Audiology: 19 Dec 72

ORTHOPEDIC CLINIC:

Military (NP) 6 Dec 72
(RFU) 1 Dec 72
Dependent (NP) 1 Dec 72
(RFU) 1 Dec 72

MEDICAL CLINIC:

Neurology: (NP) 30 Nov 72
(RFU) 28 Nov 72
Medical: (NP) 5 Dec 72
(RFU) 5 Dec 72

PODIATRY:

Military (NP) 6 Dec 72
(RFU) 1 Dec 72
Dependent (NP) 5 Dec 72
(RFU) 1 Dec 72

PEDIATRIC CLINIC:

Doctors: 5 Dec 72
Well Baby: 6 wks: 6 Dec 72
3 mos: 22 Dec 72
6 mos: 6 Dec 72

CAST ROOMS:

Military: 1 Dec 72
Dependent: 1 Dec 72

OUTPATIENT CLINIC:

Anytime

Total Calls received from
20 - 22 Nov - 1495

DIET THERAPY:

Anytime

SURGICAL CLINIC:

8 Dec 72

DERMATOLOGY CLINIC:

(NP) None
(RFU) 18 Dec 72

ALLERGY CLINIC:

(NP) None
(RFU) 5 Jan 72

OB-GYN CLINIC:

OB (Bldg 36001 - Rm 139) 29 Nov 72
Well Lady Screening (Bldg 2326) 22 Dec 72
Problems (Hospital) 30 Nov 72 13

1 DEC

RUBY M. DOWLING
CAS

CLINIC	TOTAL CARDS	TOTAL APPTS	INITIALS
ALLERGY			
DERMATOLOGY			
DIET THERAPY			
EENT			
1	5		
2	6		
3	7		
4	8		
MEDICAL			
1			
2			
3			
NEUROLOGY			
1			
2			
OB-GYN			
1 Drs.			
2 GYN Problems			
3 W.L.S.			
4 Histories			
OPC			
1	3		
2	4		
ORTHOPEDIC			
1 Routine Military NP RFU			
2 Routine Dependents NP RFU			
3 Podiatry			
4 Cast Room			
PEDIATRIC			
1 Routine			
2 Special			
3 WBC			
SURGICAL			
UROLOGY			

DATE _____

TOTAL INITIALS _____

APPENDIX 57

Darnall Army Hospital
Daily Clinic Checklist

57-1

APPENDIX 58
William Beaumont General Hospital
Clinic Schedule
Change Request

CLINIC SCHEDULE CHANGE REQUEST <i>(Prepare in triplicate)</i>				DATE	
CLINIC				DOCTOR	
SCHEDULED HOURS			CHANGE REQUESTED		
MONTH	DAY	TIME			
REASON FOR CHANGE <i>(Indicate specific date of duty)</i>					
APPROVED <i>(Chief, department or service)</i>				DATE APPROVED	

WBGH Form 11-111, 1 Apr 69 Copy to: 1. Central Appointment Section 2. Clinic Receptionist
3. Chief, Department

Army, Fort Bliss, Texas 29537-M2

APPENDIX 59
Darnall Army Hospital
Appointment Reminder Form

U. S. DARNALL ARMY HOSPITAL
CENTRAL APPOINTMENT SECTION

THIS FORM TO BE COMPLETED BY THE
PATIENT

TELEPHONE NUMBERS - CENTRAL
APPOINTMENT SECTION:

WHEN DIALING FROM ON POST

685-2137/2138/2139

WHEN DIALING FROM OFF POST

526-6661/6662/6663

APPOINTMENT DATE: _____
TIME: _____
CLINIC: _____

PLEASE NOTIFY THE CENTRAL
APPOINTMENT DESK IF YOU CANNOT
KEEP YOUR APPOINTMENT.

FH FORM 548
14 AUG 72

N=46

WILLIAM BEAUMONT GEN HOSP

6. Using the CAS, can you have a patient re-appointed for two days' hence?

7 (15.2%) a. Yes

29 (63.0%) b. No

10 (21.7%) No answer

7. Are lists of appointments furnished by the CAS usually accurate?

44 (95.7%) a. Yes

 b. No

2 (4.3%) No answer

8. Is the CAS able to insure that most of the patients' medical records are available when you see your patients?

44 (95.7%) a. Yes

2 (4.3%) b. Not very often

 c. No

9. Is the CAS able to insure that most of the patients' x-rays are available when you see your patients?

20 (43.5%) a. Yes

2 (4.3%) b. Not very often

4 (8.7%) c. No

20 (43.5%) No answer or N/A

10. Is it easy to cancel your appointments if you must be absent from the clinic?

27 (58.7%) a. Yes

10 (21.7%) b. No

9 (19.6%) No answer or N/A

11. Are you able to easily work in special patients, walk-in patients, etc., when all regular appointments are filled?

24 (52.2%) a. Yes

19 (41.3%) b. No

3 (6.5%) No answer

WILLIAM BEAUMONT GEN HOSP

12. Do you have a significant amount of idle time because of the appointment system (that is, consultation (service) times are too long or not enough patients are scheduled per clinic session)?

1 (2.2%) a. Yes, I have too much idle time

42 (91.3%) b. No, my consultation times seem about right

3 (6.5%) No answer

13. Do you usually feel rushed in seeing patients who have appointments because you have a scheduled consultation time that is too short?

16 (34.8%) a. Yes

28 (60.9%) b. No

2 (4.3%) No answer

14. How often do you find a patient who has been erroneously appointed to a clinic?

9 (19.6%) a. Never

25 (54.3%) b. Rarely (once a month, or less)

8 (17.3%) c. Frequently (once a week)

2 (4.3%) d. Daily

2 (4.3%) No answer

15. Assuming that a CAS of some type is mandatory and if there were no limit on money or staff, that would you do to improve this CAS?

WILLIAM BEAUMONT GENERAL HOSPITAL
Staff Comments re CAS

(From 46 questionnaires)

1. Need a better phone system (more phone lines, etc.) (8)
2. Need more CAS staff. (5)
3. Doctors should be able to see their appointment schedules in advance. (3)
4. Have CAS request X-ray files. (2)
5. Each doctor should be able to easily communicate with the CAS clerks. (2)
6. Need to handle short-lead-time patients (that need to be seen within 24-48 hrs.). (2)
7. Need more flexible schedules for doctors. (2)
8. Locate CAS inside main hospital building, so doctors can visit it more conveniently. (2)
9. Have in-house phones for patients to use to reach CAS before leaving the hospital. (2)
10. Should be able to make long-lead-time appointments (e.g., 6 mos. in advance) (1)
11. Doctors need to be better informed as to how CAS works. (1)
12. CAS should be able to fill in cancelled appointment slots. (1)
13. Have nurse as resource person CAS clerks could communicate with re problem patients. (1)
14. There should be a greater success rate in providing medical records for appointed patients. (1)
15. CAS should be open 24 hours a day. (1)
16. Provide computer print-out of appointment schedule as of 2400 hours day preceeding appointment. (1)
17. There should be a 3 week maximum permissible appointment backlog; once this has been reached, clinic hours should be extended. (1)

18. Would like to have inpatient (clinical) record as well as outpatient record. (1)
19. Proctoscopies should be scheduled via the CAS. (1)
20. Appointment lists should indicate whether patients are new or old patients. (1)
21. There should be a clearer definition of what constitutes an emergency. (1)
22. There should be a maximum appointment backlog of two weeks. (1)
23. Give appointments in General Medicine Clinic only to patients being followed with a specific problem on a regular basis, or to those who need a screening visit with a "screening doctor". (1)
24. For GMC: Appointments for physical examinations at 30 minute intervals, for routine patients at 20 minute intervals. (1)
25. More self-referrals to specialty clinics. (1)
26. Use CAS only for new patients, own clinic secretary for re-visits. (1)
27. Enable all clinic receptionist phones to be switched to CAS when clinic not in session. (1)
28. More patient education re CAS.
29. More screening by CAS, to weed out chronic problems from "walk-in" clinics.
30. Provide schedules to CAS farther in advance. (1)
31. Need to encourage and facilitate patients being re-appointed to same doctor. (1)
32. Do more to discourage "walk-ins". (1)
33. Make more of the assigned doctors available for appointments. (1)
34. On-line, real-time computer system needed (to show doctors their available appointment slots, and print-out schedules. (1)

APPENDIX 61

FITZSIMONS
GENERAL HOSPITAL

CENTRAL APPOINTMENT SYSTEM

N = 42

STAFF QUESTIONNAIRE

1. What clinic do you usually work in? _____

2. What is your position on the hospital staff?

21 (50%) a. Staff physician

15 (35.7%) b. Resident

1 (2.4%) c. Fellow

_____ d. Intern

5 (11.9%) e. Other (3 optometrists, 1 nurse clinician, 1 clinic admin. asst.)

3. Do you like this hospital's Central Appointment System (CAS)?

32 (76.2%) a. Yes

8 (19.0%) b. Yes, in some ways

2 (4.8%) c. No

_____ d. No opinion

4. How are your follow-up patients scheduled?

14 (33.3%) a. CAS only 8(19.%) scheduled only in clinic 19(45.2%) scheduled both by

_____ b. A clerk or secretary in my clinic schedules them

_____ c. I schedule them myself

1 (2.4%) d. Other (describe): walk-ins

5. Using the CAS, can you have a patient re-appointed for the next day?

8 (19.0%) a. Yes

31. (78.6%) b. No

1 (2.4%) No ans.

FGH

6. Using the CAS, can you have a patient re-appointed for two days' hence?

6 (14.3%) a. Yes

35 (83.3%) b. No

7. Are lists of appointments furnished by the CAS usually accurate?

39 (92.8%) a. Yes

1 (2.4%) b. No

2 (4.8%) No ans.

8. Is the CAS able to insure that most of the patients' medical records are available when you see your patients?

38 (90.5%) a. Yes

4 (9.5%) b. Not very often

0 c. No

9. If you require x-rays to be present when you see some of your patients, is the CAS able to insure that most of the patients' x-rays are available when you see your patients?

0 a. Yes

0 b. Not very often

6 (14.3%) c. No

35 (83.3%) d. I usually do not require x-rays to be present

1 (2.4%) No ans.

10. Is it relatively easy to cancel your appointments if you must be absent from the clinic?

16 (38.1%) a. Yes

9 (21.4%) b. No

17 (40.5%) c. I have not had occasion to request an absence

11. Are you able to easily work in special patients, walk-in patients, etc., when all regular appointments are filled? That is, can you overbook relatively easily through the CAS?

9 (21.4%) a. Yes

30 (71.4%) b. No

2 (4.8%) c. Other response

1 (2.4%) No answer.

12. Do you have a significant amount of idle time because of the appointment system (that is, consultation times are too long, or not enough patients are scheduled per clinic session)?

1 (2.4%) a. Yes, I have too much idle time

37 (88.1%) b. No

4 (9.5%) No ans.

13. Do you usually feel rushed in seeing patients who have appointments because you have a scheduled consultation time that is too short?

3 (7.1%) a. Yes

36 (85.7%) b. No

3 (7.1%) No ans.

14. How often do you find a patient who has been erroneously appointed to a clinic?

16 (38.1%) a. Never

20 (47.6%) b. Rarely (once a month, or less)

5 (11.9%) c. Frequently (once a week)

0 d. Daily

1 (2.4%) No ans.

15. Assuming that a CAS of some type is mandatory and if there were no limit on money or staff, what would you do to improve this CAS?

FITZSIMONS GENERAL HOSPITAL
Staff Comments re CAS

(From 42 questionnaires)

1. More telephone lines. (5)
2. Improve communications between CAS and doctors--perhaps by intercom. (4)
3. Schedule patients, including revisits, by individual doctor (More than is now done). (2)
4. Improve the availability of medical records. (2)
5. Permit more self-referrals to specialty clinics. (2)
6. More in-house phones. (2)
7. Leave some appointment slots for semi-emergency/priority cases. (2)
8. Have CAS provide X-ray film files. (2)
9. Provide more information to CAS re screening patients (e.g., minor eye problems in Ophthalmology Clinic. (2)
10. Permit more freedom of judgment by CAS clerks as to which clinics patients should be referred to. (1)
11. Better system of cancellation of appointments by patients. (1)
12. Patient tardiness needs to be improved. (1)
13. More CAS staff. (1)
14. Fully computerize the CAS. (1)
15. Make more appointments available. (1)
16. Patients should be told to arrive 10 minutes early for appointments. (1)
17. Would like to see appointment lists in advance (i.e., weeks in advance). (1)
18. Spread out appointments throughout the afternoon and not bunch them in the early afternoon hours (Hematology Clinic). (1)

19. Inform patients that they may not be seen exactly on time, due to emergencies, etc. (1)
20. In General Outpatient Clinic, change term "walk-in appointment" to "24-hour appointment". (1)
21. Let doctors make appointments for patients (via CAS). (1)
22. Simplify the kinds of appointments in the General Outpatient Clinic; three kinds are too confusing. (1)
23. Develop system to handle short-lead-time appointments (e.g., 24-48 hours). (1)
24. Do not scatter patients throughout a day, if some slots go unfilled; prefer to bunch them. (1)
25. Have CAS clerks request sinus patients get sinus X-rays before appointment. (1)
26. Better patient education, such as telling them to call the CAS, not Dermatology Clinic. (1)
27. Develop system to overbook in subspecialty clinics when necessary. (1)
28. Assign certain CAS clerks to be principal contact or liaison with certain clinics. (1)
29. Centralize all outpatient records in one location. (1)
30. Make appointments in clinics only (not CAS). (1)
31. Consider having CAS schedule patients for surgery. (1)

APPENDIX 62

Ft. BENNING

CENTRAL APPOINTMENT SYSTEM

N = 39

STAFF QUESTIONNAIRE

1. What clinic do you usually work in? _____
2. What is your position on the hospital staff?
 - 29(74.4%) a. Staff physician
 - _____ b. Resident
 - _____ c. Fellow
 - _____ d. Intern
 - 10(25.6%) e. Other (5 optometrists, 2 podiatrists, 2 NCOICs, 1 Nurse Clinician)
3. Do you like this hospital's Central Appointment System (CAS)?
 - 20(51.3%) a. Yes
 - 9(23.1%) b. Yes, in some ways
 - 10(25.6%) c. No
 - _____ d. No opinion
4. How are your follow-up patients scheduled?
 - 4 (10.3%) a. CAS only 4 (10.3%) scheduled in clinic only 29 (74.4%) both CAS and in clinic
 - _____ b. A clerk or secretary in my clinic schedules them
 - _____ c. I schedule them myself
 - _____ d. Other (describe): _____
- 2 (5.1%) No answ.
5. Using the CAS, can you have a patient re-appointed for the next day?
 - 3 (7.7%) a. Yes
 - 33(84.6%) b. No
 - 3 (7.7%) No answ

FT BENNING

6. Using the CAS, can you have a patient re-appointed for two days' hence?

5(12.8%) a. Yes

31(79.5%) b. No

3 (7.7%) No ans

7. Are lists of appointments furnished by the CAS usually accurate?

28(71.8%) a. Yes

_____ b. No

11(28.2%) No ans. or N/A

8. Is the CAS able to insure that most of the patients' medical records are available when you see your patients?

35(89.7%) a. Yes

3 (7.7%) b. Not very often

_____ c. No

1 (2.6%) No ans.

9. If you require x-rays to be present when you see some of your patients, is the CAS able to insure that most of the patients' x-rays are available when you see your patients?

1 (2.6%) a. Yes

_____ b. Not very often

9 (23.1%) c. No

27 (69.2%) d. I usually do not require x-rays to be present

2 (5.1%) No ans.

10. Is it relatively easy to cancel your appointments if you must be absent from the clinic?

8 (20.5%) a. Yes

12 (30.8%) b. No

16 (41.0%) c. I have not had occasion to request an absence

3 (7.7%) No ans. or N/A

11. Are you able to easily work in special patients, walk-in patients, etc., when all regular appointments are filled? That is, can you overbook relatively easily through the CAS?

7 (17.9%) a. Yes

31 (79.5%) b. No

1 (2.6%) No ans.

FT BENNING

12. Do you have a significant amount of idle time because of the appointment system (that is, consultation times are too long, or not enough patients are scheduled per clinic session)?

6(15.4%) a. Yes, I have too much idle time

29 (74.4%) b. No

4 (10.3%) No ans.

13. Do you usually feel rushed in seeing patients who have appointments because you have a scheduled consultation time that is too short?

8 (20.5%) a. Yes

27 (69.2%) b. No

14. How often do you find a patient who has been erroneously appointed to a clinic?

18 (46.2%) a. Never

12 (30.8%) b. Rarely (once a month, or less)

5 (12.8%) c. Frequently (once a week)

2 (5.1%) d. Daily

2 (5.1%) No ans.

15. Assuming that a CAS of some type is mandatory and if there were no limit on money or staff, what would you do to improve this CAS?

MARTIN ARMY HOSPITAL
Staff Comments re CAS
(From 39 questionnaires)

1. More phone lines, better phone system. (8)
2. More CAS clerks. (5)
3. Extend CAS operating hours. (3)
4. Allow CAS clerks to exercise some judgment as to how much time to schedule patient for. (3)
5. Provide schedules farther in advance. (2)
6. Be sure CAS is informed of doctors' leaves. (2)
7. Put an appointment clerk in each clinic. (2)
8. More appointments by individual doctor. (2)
9. Each FACS group should make its own appointments. (1)
10. Develop system to allow doctors to see all future appointment schedules. (1)
11. Furnish doctors with current backlog of appointments for all clinics so he can decide whether a referral should be routine or urgent. (1)
12. More stabilized assignments, so appointments can be made further ahead (Outpatient Clinic). (1)
13. Have patients call doctor if they can't get an appointment in the FACS. (1)
14. More appointment slots are needed. (1)
15. Have certain doctors see only appointments; walk-ins would be seen by other doctors. (1)
16. Have an appointment clerk for each doctor. (1)
17. Permit no walk-ins. (1)
18. Clinics should start more promptly. (1)
19. Have 20 minute appointments in Pediatric Clinic. (1)
20. Allow some one hour appointments to be made. (1)

21. If CAS clerks must call patient, try more than three times (common complaint of mothers, says this Pediatric Clinic doctor). (1)
22. Have more appointments in afternoon (Pediatric Clinic). (1)
23. More communication between CAS and Clinics. (1)
24. More patient education re CAS's existence. (1)
25. Have some appointments in evening clinic. (1)
26. Have 15 minute appointments in Pediatric Clinic (1)
27. Use an electrowriter to order medical records (Pediatric Clinic). (1)
28. Equalize appointments among physicians. (1)
29. More 2-way communication between CAS clerks and doctors. (1)
30. Computerize the CAS. (1)
31. Develop system to overbook when needed. (1)
32. Have more screening of patients by CAS. (1)
33. Assign optometry technician (responsible to optometrist) to CAS. (1)
34. CAS clerks should be more familiar with basic military procedures. (1)
35. Have medical records available more often. (1)
36. Have some way to handle long-lead-time appointments (1)
37. Make Urology Clinic a referral clinic only. (1)
38. CAS clerks should be more familiar with clinic SOP's (e.g., do not schedule Urology patients for OR mornings) (1)
39. Discontinue parallel appointment systems (one in CAS, one in clinic; he prefers to do it all in the clinic). (1)
40. More in-house phones. (1)
41. Schedule appointments in clinic, then have patient call the CAS. (1)

42. If patient cancels appointment via CAS, clinic should be notified as well. (1)

43. Send clinic list of patients that do not return, and of those that cancel. (1)

44. Better coordination needed between clinic schedule and appointment schedule. (1)

45. Allow clinic to see its future workload (perhaps once a week). (1)

46. Better system needed for short-lead-time appointments (e.g., 24-48 hours in advance). (1)

47. Allow elderly patients to make appointments in person (1)

48. Patients should be furnished a written reminder of the appointment; this could be done at a walk-up CAS desk. (1)

APPENDIX 63

FT. HOOD

CENTRAL APPOINTMENT SYSTEM

N= 37

STAFF QUESTIONNAIRE

1. What clinic do you usually work in? _____

2. What is your position on the hospital staff?

33 (89.2%) a. Staff physician

_____ b. Resident

_____ c. Fellow

_____ d. Intern

4 (10.8%) e. Other (2 optometrists, 1 audiologist, 1 podiatrist)

3. Do you like this hospital's Central Appointment System (CAS)?

24 (64.9%) a. Yes

9 (24.3%) b. Yes, in some ways

3 (8.1%) c. No

1 (2.7%) d. No opinion

4. How are your follow-up patients scheduled?

11 (29.7%) a. CAS only 3 (8.1%) scheduled in clinic only 23 (62.2%) scheduled both
by CAS and in clinic

_____ b. A clerk or secretary in my clinic schedules them

_____ c. I schedule them myself

_____ d. Other (describe): _____

5. Using the CAS, can you have a patient re-appointed for the next day?

7 (18.9%) a. Yes

24 (64.9%) b. No

6 (16.2%) No ans

6. Using the CAS, can you have a patient re-appointed for two days' hence?

8 (21.6%) a. Yes

24 (64.9%) b. No

5 (13.5%) No ans.

7. Are lists of appointments furnished by the CAS usually accurate?

6 (16.2%) a. Yes

2 (5.4%) b. No

29 (78.4%) No ans. or N/A

8. Is the CAS able to insure that most of the patients' medical records are available when you see your patients?

30 (81.1%) a. Yes

4 (10.8%) b. Not very often

_____ c. No

3 (8.1%) No ans.

9. If you require x-rays to be present when you see some of your patients, is the CAS able to insure that most of the patients' x-rays are available when you see your patients?

2 (5.4%) a. Yes

1 (2.7%) b. Not very often

11 (29.7%) c. No

22 (59.5%) d. I usually do not require x-rays to be present

1 (2.7%) No ans or N/A

10. Is it relatively easy to cancel your appointments if you must be absent from the clinic?

15 (40.5%) a. Yes

5 (13.5%) b. No

15 (40.5%) c. I have not had occasion to request an absence

2 (5.4%) No ans.

11. Are you able to easily work in special patients, walk-in patients, etc., when all regular appointments are filled? That is, can you overbook relatively easily through the CAS?

16 (43.2%) a. Yes

16 (43.2%) b. No

3 (8.1%) N/A

2 (5.4%) No ans

12. Do you have a significant amount of idle time because of the appointment system (that is, consultation times are too long, or not enough patients are scheduled per clinic session)?

5 (13.5%) a. Yes, I have too much idle time

29 (78.4%) b. No

3 (8.1%) No ans.

13. Do you usually feel rushed in seeing patients who have appointments because you have a scheduled consultation time that is too short?

2 (5.4%) a. Yes

32 (86.5%) b. No

3 (8.1%) No ans.

14. How often do you find a patient who has been erroneously appointed to a clinic?

18 (48.6%) a. Never

9 (24.3%) b. Rarely (once a month, or less)

7 (18.9%) c. Frequently (once a week)

2 (5.4%) d. Daily

1 (2.7%) No ans.

15. Assuming that a CAS of some type is mandatory and if there were no limit on money or staff, what would you do to improve this CAS?

DARNALL ARMY HOSPITAL
Staff Comments re CAS
(From 37 questionnaires)

1. More phones, better phone system. (6)
2. More screening of patients by CAS clerks. (4)
3. CAS clerks need more training re clinic operations. (3)
4. Need a system for short-lead-time appointments.
(e.g., 24-48 hrs.). (3)
5. More flexible scheduling needed--need to vary appointment
times depending on patients' needs. (2)
6. Have more appointments by individual doctor. (2)
7. Provide list of appointments to doctors. (2)
8. Develop system to call patients to fill cancelled appoint-
ments. (2)
9. Allow doctors to look at appointment "books" periodi-
cally. (2)
10. Allow patients to make appointments in person. (2)
11. Provide better communication between CAS clerks and
doctors. (2)
12. Encourage patients to call in for appointments. (1)
13. Have last appointment at 1545, not 1615. (1)
14. Provide more appointment slots. (1)
15. Reserve some appointment slots for active duty urgent
cases. (1)
16. Have CAS clerks make some determination as to urgency
of the appointment, and overbook if necessary, in order to
have patients return when told by doctor. (1)
17. Extend CAS operating hours. (1)
18. Have cast patients come to Orthopedic Clinic directly,
without referral. (1)
19. More CAS clerks. (1)

20. Assign certain CAS desks to be principal contact or liaison with certain clinics. (1)
21. Need more patient education re CAS procedures. (1)
22. Limit walk-in hours. (1)
23. Have walk-in patients seen only by paramedical personnel. (1)
24. Referral patients should be appointed by clinic referred to, not CAS. (1)
25. Would like weekly feedback on appointment backlog. (1)

APPENDIX 64

Comparison of Responses to Staff Survey Concerning the Central Appointment System at Four Army Hospitals

Q. 3 Do you like this hospital's Central Appointment System (CAS)?

	<u>Yes, plus Yes, in some ways</u>	<u>No</u>	<u>No opinion</u>	
WBGH	42 (91.4%)	2 (4.3%)	2 (4.3%)	
FGH	40 (95.2%)	2 (4.8%)		
MAH	29 (74.4%)	10 (25.6%)		$p < .01$
DAH	33 (89.7%)	3 (8.1%)	1 (2.7%)	$p < .05$

Q. 4. How are your follow-up patients scheduled?

	<u>CAS Only</u>	<u>In clinic only</u>	<u>Both</u>
WBGH	19 (41.3%)	6 (13.0%)	20 (43.5%)
FGH	14 (33.3%)	8 (19.0%)	19 (45.2%)
MAH	4 (10.3%)	4 (10.3%)	29 (74.4%)
DAH	11 (29.7%)	3 (8.1%)	23 (62.2%)

Q. 5 Using the CAS, can you have a patient re-appointed for the next day? (Only those who answered question.)

	<u>Yes</u>	<u>No</u>
WBGH	3 (7.7%)	36 (92.3%)
FGH	8 (20.5%)	31 (79.5%)
MAH	3 (8.3%)	33 (91.7%)
DAH	7 (22.6%)	24 (77.4%)

Q. 6 Using the CAS, can you have a patient re-appointed for two days hence?

	<u>Yes</u>	<u>No</u>	<u>No answer</u>
WBGH	7 (15.2%)	29 (63.0%)	10 (21.7%)
FGH	6 (14.3%)	35 (83.3%)	
MAH	5 (12.8%)	31 (79.5%)	3 (7.7%)
DAH	8 (21.6%)	24 (64.9%)	5 (13.5%)

Q. 7 Are lists of appointments furnished by the CAS usually accurate:

	<u>Yes</u>	<u>No</u>	<u>No answer or N/A</u>
WBGH	44 (95.7%)		2 (4.3%)
FGH	39 (92.8%)	1 (2.4%)	2 (4.8%)
MAH	28 (71.8%)		11 (28.2%) (Doctors get no list)
DAH	6 (16.2%)	2 (5.4%)	29 (78.4%) (Doctors get no list)

Q. 8 In the CAS able to insure that most of the patients' medical records are available when you see your patients? (Those who expressed an opinion.)

	<u>Yes</u>	<u>Not very often</u>	<u>No</u>
WBGH	44 (95.7%)	2 (4.3%)	-
FGH	38 (90.5%)	4 (9.5%)	-
MAH	35 (92.1%)	3 (7.9%)	-
DAH	30 (88.2%)	4 (11.8%)	-

Q. 9 If you require x-rays to be present when you see your patients, is the CAS able to insure that most of the patients' x-rays are available when you see your patients?

	<u>Yes</u>	<u>Not very often</u>	<u>No</u>
WBGH	20 (76.9%)	2 (7.7%)	4 (15.4%)
FGH	0	0	6 (100%)
MAH	1 (10.0%)	0	9 (90.0%)
DAH	2 (14.3%)	1 (7.1%)	11 (78.6%)

Q. 10 Is it relatively easy to cancel your appointments if you must be absent from the clinic? (Those who had an occasion to.)

	<u>Yes</u>	<u>No</u>
WBGH	27 (73%)	10 (27%)
FGH	16 (64%)	9 (36%)
MAH	8 (40%)	12 (60%)
DAH	15 (75%)	5 (25%)

Q. 11 Are you able to easily work in special patients, walk-in patients, etc., when all regular appointments are filled? That is, can you over-book relatively easily through the CAS? (Those with an opinion, or experience.)

	<u>Yes</u>	<u>No</u>	
WBGH	24 (56%)	19 (44%)	$p < .01$
FGH	9 (23%)	30 (77%)	
MAH	7 (18%)	31 (82%)	
DAH	16 (50%)	16 (50%)	

Q. 12 Do you have a significant amount of idle time...? (those with an opinion.)

	<u>Yes</u>	<u>No</u>	
WBGH	1 (2%)	42 (98%)	$p < .05$
FGH	1 (3%)	37 (97%)	
MAH	6 (17%)	29 (83%)	
DAH	5 (15%)	29 (85%)	

Q. 13 Do you usually feel rushed in seeing patients...? (Those with an opinion.)

	<u>Yes</u>	<u>No</u>
WBGH	16 (36.4%)	28 (63.6%)
FGH	3 (7.7%)	36 (92.3%)
MAH	8 (22.9%)	27 (77.1%)
DAH	2 (5.9%)	32 (94.1%)

Q. 14 How often do you find a patient who has been erroneously appointed to a clinic? (Those with an opinion.)

	<u>Never or rarely</u>	<u>Frequently or daily</u>
WBGH	34 (77.3%)	10 (22.7%)
FGH	36 (87.9%)	5 (12.1%)
MAH	30 (81.1%)	7 (18.9%)
DAH	27 (75.0%)	9 (25.0%)

Wm Beaumont General
Hospital

QUESTIONNAIRE

N=678

The Army Medical Department is conducting a study of centralized outpatient appointment systems. (A centralized (or central) outpatient appointment system is one in which a group of clerks in one location make appointments for a number of clinics, usually by telephone.) Please take a moment to answer a few questions about your experience with the appointment system at this hospital.

- INSTRUCTIONS: Please check the appropriate answer to each question in the blanks provided.

1. Have you made any appointments through the central appointment system at this hospital?

678 (100%) a. Yes.

_____ b. No.

_____ c. Don't know.

If your answer was a, please go on to question 2. If your answer was b or c, you do not need to complete the rest of the questionnaire.

2. Do you believe the central appointment system is generally convenient for you?

579 (85.4%) a. Yes.

49 (7.2%) b. No.

44 (6.5%) c. Not sure.

6 (0.9%) No answer

3. When you call the central appointment telephone number to make appointments what usually happens?

172 (25.4%) a. I usually get an appointment clerk right away.

240 (35.4%) b. I usually get a recording, but a clerk answers promptly.

113 (16.7%) c. I usually get a recording, and have to wait on the phone quite some time, but a clerk finally answers.

126 (18.6%) d. I usually get a busy signal.

11 (1.6%) e. I get some other response (please describe _____)

16 (2.4%) No answer _____.)

WILLIAM BEAUMONT GEN HOSP

4. Did the doctor have your medical record when you saw him today?

- 594 (87.6%) a. Yes.
30 (4.4%) b. No, it had to be tracked down.
16 (2.4%) c. No, and it could not be located.
38 (5.6%) No answer

5. Did the doctor already have your x-ray file when you saw him today?

- 119 (17.6%) a. Yes.
18 (2.7%) b. No, it had to be tracked down.
5 (0.7%) c. No, and it could not be located.
453 (66.8%) d. Not applicable: no x-rays were needed or requested for this visit.
83 (12.2%) No answer

6. Did you feel rushed when you saw the doctor? (That is, did the time you spent with the doctor seem too short?)

- 69 (10.2%) a. Yes.
540 (79.6%) b. No.
69 (10.2%) No answer

7. What do you think about the length of time you spent in the waiting room to see the doctor?

- 93 (13.7%) a. It was too long.
497 (73.3%) b. It was reasonable.
36 (5.3%) c. No opinion.
52 (7.7%) Other or no answer

8. Are you able to get information from the central appointment system clerk (operator) about hospital schedules, policies, clinic locations, etc.?

- 376 (55.5%) a. Yes.
25 (3.7%) b. No.
247 (36.4%) c. I have never asked for such information.
30 (4.4%) Other or no answer

WILLIAM BEAULMONT GEN HOSP

9. Do the central appointment system clerks (operators) seem to know enough about illnesses to make you an appointment for the proper clinic when you describe your problem to them?

415 (61.2%) a. Yes, usually.

30 (4.4%) b. No.

202 (29.8%) c. I've never had to describe a health problem to an appointment clerk.

31 (4.6%) Other or no answer

10. Are the central appointment system clerks (operators) courteous?

422 (62.2%) a. Yes, always.

199 (29.4%) b. Yes, usually.

29 (4.3%) c. Sometimes.

5 (0.7%) d. No.

23 (3.4%) No answer

11. Is the central appointment system able to make more than one appointment for you for a single day?

179 (26.4%) a. Yes.

47 (6.9%) b. No.

422 (62.2%) c. Don't know; I have never had to request more than one appointment for one day.

30 (4.4%) Other or no answer

12. Is it easy to reach the central appointment system when you are inside the hospital, or the clinic area?

73 (10.8%) a. Yes.

71 (10.5%) b. No, the phones are usually busy.

25 (3.7%) c. No, you can only reach it by calling in from outside.

482 (71.1%) d. Don't know.

27 (4.0%) No answer

13. Can the central appointment system handle little-advance-notice appointments, such as "I would like to come in tomorrow", or "the doctor told me to come back in 2 days"?

232 (34.2%) a. Yes.

292 (43.1%) c. Don't know.

120 (17.7%) b. No.

34 (5.0%) No answer

WILLIAM BEAUMONT GEN HOSP

14. Do the appointment clerks seem to take a personal interest in you?

273 (40.3%) a. Yes. (55.2% of those (495) with an opinion)

162 (23.9%) b. Sometimes. (32.7% of those (495) with an opinion)

60 (8.8%) c. No. (12.1% of those (495) with an opinion)

153 (22.6%) d. No opinion.

30 (4.4%) No answer

15. Were you able to get an appointment for this visit with the doctor you wanted?

411 (60.6%) a. Yes.

110 (16.2%) b. No.

29 (4.3%) Did not request a specific doctor

128 (18.9%) No answer

16. Was today's appointment scheduled for as soon as you wanted it?

525 (77.4%) a. Yes.

124 (18.3%) b. No.

29 (4.3%) No answer

17. Do you think the central appointment system at this hospital works well?

518 (76.4%) a. Yes. (92.0% of those (563) with an opinion)

45 (6.6%) b. No. (8.0% of those (563) with an opinion)

78 (11.5%) c. No opinion.

38 (5.5%) Other or no answer

18. Please write below any comments you would like to make about the appointment system at this hospital.

WILLIAM BEAUMONT GENERAL HOSPITAL
Q. 18, Patient Questionnaire
Frequency of Responses
70 positive (favorable) responses
108 negative (critical) responses

<u>Frequency</u>	<u>Details of negative responses</u>
16	1. Inadequate telephone system
15	2. Takes too long to get an appointment
7	3. Need more CAS clerks
6	4. Should be able to make appointment at clinic level
6	5. Need more phones
6	6. Too many appointments scheduled for the same time span
6	7. Clerks should have the doctors' schedules in order to make advance appointments (also know when they are off)
5	8. Provision should be made for short-lead-time appointments
5	9. Better system for record maintenance
5	10. Should be able to bypass General Medicine Clinic and go direct to special clinics.
4	11. Educate population as to why CAS clerks require certain information
3	12. Waiting room time is too long
3	13. Should be able to make an appointment at the hospital while you're there
2	14. More personalized attention
2	15. Better walk-in system
2	16. No phone to make appointments from within the hospital other than pay phones
2	17. Doctor should be able to make an appointment
2	18. Better scheduling of time
2	19. CAS clerks should be more courteous

- 2 20. CAS clerks should be better trained
- 2 21. Couldn't get the desired appointment time
- 2 22. Felt that even though there is a CAS, people are still basically on a first-come-first-served basis.
- 2 23. Walk-in wait is too long
- 1 24. A CAS clerk prescribed a treatment for an ailment
- 1 25. Better coordination between clinic and CAS clerk
- 1 26. Be able to see a specific doctor
- 1 27. Person called for a college physical and was told they weren't giving physicals at that time.
- 1 28. Difficult to obtain refills
- 1 29. One person believed there should not be walk-ins--it slows up those who have appointments
- 1 30. Location of clinics should be well-posted
- 1 31. Conflicting information concerning suture removal between ER and clinic concerned.
- 1 32. Should be able to obtain Saturday appointments
- 1 33. Had trouble obtaining emergency appointments
- 1 34. Rheumatology C1 - Ambulance service slow, making him usually late for appointment, or not getting in to see Dr. at all
- 1 35. Coordination with individual clinic still necessary for most of one person's appointments
- 1 36. Active duty personnel should take priority over dependents and retired personnel
- 1 37. More doctors are needed
- 1 38. Suggests names listed be called off in order to avoid congestion at the desk
- 1 39. Saw nurse clinician for OB instead of doctor
- 1 40. CAS clerks should work thru lunch hour

The Army Medical Department is conducting a study of centralized outpatient appointment systems. (A centralized (or central) outpatient appointment system is one in which a group of clerks in one location make appointments for a number of clinics, usually by telephone.) Please take a moment to answer a few questions about your experience with the appointment system at this hospital.

INSTRUCTIONS: Please check the appropriate answer to each question in the blanks provided.

1. Have you made any appointments through the central appointment system at this hospital?

651 (100%) a. Yes.

_____ b. No.

_____ c. Don't know.

If your answer was a, please go on to question 2. If your answer was b or c, you do not need to complete the rest of the questionnaire.

2. Do you believe the central appointment system is generally convenient for you?

557 (85.6%) a. Yes.

42 (6.5%) b. No.

47 (7.2%) c. Not sure.

5 (0.8%) No answer

3. When you call the central appointment telephone number to make appointments what usually happens?

284 (43.6%) a. I usually get an appointment clerk right away.

68 (10.4%) b. I usually get a recording, but a clerk answers promptly.

57 (8.8%) c. I usually get a recording, and have to wait on the phone quite some time, but a clerk finally answers.

198 (30.4%) d. I usually get a busy signal.

33 (5.1%) e. I get some other response (please describe _____.)

FGH

4. Did the doctor have your medical record when you saw him today?

530 (81.4%) a. Yes.

67 (10.3%) b. No, it had to be tracked down.

16 (2.5%) c. No, and it could not be located.

38 (5.8%) Other and no answer

5. Did the doctor already have your x-ray file when you saw him today?

80 (12.3%) a. Yes.

21 (3.2%) b. No, it had to be tracked down.

5 (0.8%) c. No, and it could not be located.

479 (73.6%) d. Not applicable: no x-rays were needed or requested for this visit.

66 (10.1%) No answer

6. Did you feel rushed when you saw the doctor? (That is, did the time you spent with the doctor seem too short?)

64 (9.8%) a. Yes.

526 (80.8%) b. No.

61 (9.4%) Other and no answer

7. What do you think about the length of time you spent in the waiting room to see the doctor?

109 (16.7%) a. It was too long.

471 (72.4%) b. It was reasonable.

33 (5.1%) c. No opinion.

38 (5.8%) No answer

8. Are you able to get information from the central appointment system clerk (operator) about hospital schedules, policies, clinic locations, etc.?

323 (49.6%) a. Yes.

53 (8.1%) b. No.

258 (39.6%) c. I have never asked for such information.

17 (2.6%) No answer

FGH

9. Do the central appointment system clerks (operators) seem to know enough about illnesses to make you an appointment for the proper clinic when you describe your problem to them?

339 (52.1%) a. Yes, usually.

54 (8.3%) b. No.

241 (37.0%) c. I've never had to describe a health problem to an appointment clerk.

17 (2.6%) No answer

10. Are the central appointment system clerks (operators) courteous?

345 (53.0%) a. Yes, always.

241 (37.0%) b. Yes, usually.

38 (5.8%) c. Sometimes.

6 (0.9%) d. No.

21 (3.2%) No answer

11. Is the central appointment system able to make more than one appointment for you for a single day?

166 (25.5%) a. Yes.

45 (6.9%) b. No.

418 (64.2%) c. Don't know; I have never had to request more than one appointment for one day.

22 (3.4%) No answer

12. Is it easy to reach the central appointment system when you are inside the hospital, or the clinic area?

272 (41.8%) a. Yes.

90 (13.8%) b. No, the phones are usually busy.

8 (1.2%) c. No, you can only reach it by calling in from outside.

260 (39.9%) d. Don't know.

21 (3.2%) No answer

13. Can the central appointment system handle little-advance-notice appointments, such as "I would like to come in tomorrow", or "the doctor told me to come back in 2 days"?

247 (37.9%) a. Yes.

245 (37.6%) c. Don't know.

128 (20.0%) b. No.

31 (4.8%) Other and no answer

FGH

14. Do the appointment clerks seem to take a personal interest in you?

207 (31.8%) a. Yes. (43.1% of those (480) with an opinion)

162 (24.9%) b. Sometimes. (33.8% of those (480) with an opinion)

111 (17.1%) c. No. (23.1% of those (480) with an opinion)

150 (23.0%) d. No opinion.

21 (3.2%) No answer

15. Were you able to get an appointment for this visit with the doctor you wanted?

412 (63.3%) a. Yes.

77 (11.8%) b. No.

59 (9.1%) c. Did not request any specific doctor

103 (15.8%) Other or no answer.

16. Was today's appointment scheduled for as soon as you wanted it?

471 (72.4%) a. Yes.

144 (22.1%) b. No.

36 (5.5%) No answer

17. Do you think the central appointment system at this hospital works well?

511 (78.5%) a. Yes. (92.6% of those (552) with an opinion)

41 (6.3%) b. No. (7.4% of those (552) with an opinion)

65 (10.0%) c. No opinion.

34 (5.2%) No answer.

18. Please write below any comments you would like to make about the appointment system at this hospital.

FITZSIMONS GENERAL HOSPITAL
Q. 18, Patient Questionnaire
Frequency of Complaints
61 positive (favorable) responses
115 negative (critical) responses
23 other responses (concerning
special optometry clinic)

<u>Frequency</u>	<u>Details of negative responses</u>
23	1. Inadequate telephone system
12	2. Takes too long to get an appointment
8	3. More phone lines needed
6	4. More CAS clerks needed
5	5. Would like to see the same doctor.
5	6. Provision should be made for short-lead-time appointments
5	7. Too long a wait in the waiting room
4	8. CAS generally poor
4	9. Better record system needed
4	10. More courtesy from the CAS clerks
3	11. CAS clerk gave an appointment when the doctor was not on duty
3	12. Educate the population as to how the system works
3	13. More doctors and medical personnel
3	14. Too many appointments within a small time period
3	15. Placed on hold when calling long distance
2	16. Long wait in OB/GYN clinic
2	17. Told had to call another time--couldn't make appointment then
2	18. Appointment made but was not shown on appointment sheet when arrived
2	19. Told had to make an appointment the day before the appointment.

- 2 20. Have information and directions as to location of clinics
- 2 21. Would like to be able to make cardiac appointments
- 1 22. Refill service on continuing prescriptions seems cumbersome
- 1 23. Lacks flexibility to handle emergencies
- 1 24. Too many people wanting appointments
- 1 25. Too inflexible in general
- 1 26. Direct lines for clinics are needed where consultation is required
- 1 27. Should be able to make appointment at clinic level
- 1 28. Didn't like having to make appointment at first of the month
- 1 29. Better handling of cancellations needed in order to handle emergency and walk-in patients
- 1 30. Need to obtain better parking facilities
- 1 31. Active duty military personnel should be seen before retired personnel and dependents in clinics
- 1 32. Better trained CAS clerks are needed
- 1 33. Ineffective walk-in system (too long a wait)
- 1 34. More personal approach
- 1 35. Better doctors
- 1 36. Cumbersome (Complaint: ("Frequently you see a MD only for a consultation request. Then the clinic. Then, then, etc. The procedure is not completed in one simple visit as it would be to a private physician's office").

The Army Medical Department is conducting a study of centralized outpatient appointment systems. (A centralized (or central) outpatient appointment system is one in which a group of clerks in one location make appointments for a number of clinics, usually by telephone.) Please take a moment to answer a few questions about your experience with the appointment system at this hospital.

INSTRUCTIONS: Please check the appropriate answer to each question in the blanks provided.

1. Have you made any appointments through the central appointment system at this hospital?

- 484 (100%) a. Yes.
_____ b. No.
_____ c. Don't know.

If your answer was a, please go on to question 2. If your answer was b or c, you do not need to complete the rest of the questionnaire.

2. Do you believe the central appointment system is generally convenient for you?

- 415 (85.7%) a. Yes.
34 (7.0%) b. No.
27 (5.6%) c. Not sure.
8 (1.7%) No answer
3. When you call the central appointment telephone number to make appointments what usually happens?
- 188 (38.8%) a. I usually get an appointment clerk right away.
8 (1.7%) b. I usually get a recording, but a clerk answers promptly.
11 (2.3%) c. I usually get a recording, and have to wait on the phone quite some time, but a clerk finally answers.
257 (53.1%) d. I usually get a busy signal.
14 (2.9%) e. I get some other response (please describe _____)
6 (1.2%) No answer _____.)

FT BEIDING

4. Did the doctor have your medical record when you saw him today?

422 (87.2%) a. Yes.

26 (5.4%) b. No, it had to be tracked down.

8 (1.7%) c. No, and it could not be located.

28 (5.8%) No answer

5. Did the doctor already have your x-ray file when you saw him today?

63 (13.0%) a. Yes.

18 (3.7%) b. No, it had to be tracked down.

6 (1.2%) c. No, and it could not be located.

318 (65.7%) d. Not applicable: no x-rays were needed or requested for this visit.

79 (16.3%) No answer

6. Did you feel rushed when you saw the doctor? (That is, did the time you spent with the doctor seem too short?)

27 (5.6%) a. Yes.

404 (83.5%) b. No.

53 (11.0%) No answer

7. What do you think about the length of time you spent in the waiting room to see the doctor?

40 (8.3%) a. It was too long.

388 (80.2%) b. It was reasonable.

22 (4.5%) c. No opinion.

34 (7.0%) No answer

8. Are you able to get information from the central appointment system clerk (operator) about hospital schedules, policies, clinic locations, etc.?

251 (51.9%) a. Yes.

20 (4.1%) b. No.

192 (39.7%) c. I have never asked for such information.

21 (4.3%) No answer

FT DENNING

9. Do the central appointment system clerks (operators) seem to know enough about illnesses to make you an appointment for the proper clinic when you describe your problem to them?

238 (49.2%) a. Yes, usually.

22 (5.4%) b. No.

207 (42.8%) c. I've never had to describe a health problem to an appointment clerk.

17 (3.5%) No answer

10. Are the central appointment system clerks (operators) courteous?

290 (59.9%) a. Yes, always.

142 (29.3%) b. Yes, usually.

30 (6.2%) c. Sometimes.

2 (0.4%) d. No.

20 (4.1%) No answer

11. Is the central appointment system able to make more than one appointment for you for a single day?

107 (22.1%) a. Yes.

28 (5.8%) b. No.

327 (67.6%) c. Don't know; I have never had to request more than one appointment for one day.

22 (4.5%) No answer

12. Is it easy to reach the central appointment system when you are inside the hospital, or the clinic area?

97 (20.0%) a. Yes.

54 (11.2%) b. No, the phones are usually busy.

14 (2.9%) c. No, you can only reach it by calling in from outside.

301 (62.2%) d. Don't know.

18 (3.7%) No answer

13. Can the central appointment system handle little-advance-notice appointments, such as "I would like to come in tomorrow", or "the doctor told me to come back in 2 days"?

171 (35.3%) a. Yes.

197 (40.7%) c: Don't know.

95 (19.6%) b. No.

21 (4.3%) No answer

FT LENDING

14. Do the appointment clerks seem to take a personal interest in you?

169 (34.9%) a. Yes. (51.7% of those (327) with an opinion)

105 (21.7%) b. Sometimes. (32.1% of those (327) with an opinion)

53 (11.0%) c. No. (16.2% of those (327) with an opinion)

121 (25.0%) d. No opinion.

36 (7.4%) No answer

15. Were you able to get an appointment for this visit with the doctor you wanted?

330 (68.2%) a. Yes.

44 (9.1%) b. No.

33 (6.8%) c. Did not request specific doctor

77 (15.9%) No answer

16. Was today's appointment scheduled for as soon as you wanted it?

383 (79.1%) a. Yes.

70 (14.5%) b. No.

31 (6.4%) No answer

17. Do you think the central appointment system at this hospital works well?

360 (74.4%) a. Yes. (92.1% of those (391) with an opinion)

31 (6.4%) b. No. (7.4% of those (391) with an opinion)

58 (12.0%) c. No opinion.

35 (7.2%) No answer

18. Please write below any comments you would like to make about the appointment system at this hospital.

MARTIN ARMY HOSPITAL
Q. 18, Patient Questionnaire
Frequency of Complaints

31 positive (favorable) responses
62 negative (critical) responses

<u>Frequency</u>	<u>Details of negative responses</u>
28	1. Inadequate telephone system
7	2. More courtesy needed from the CAS clerks
4	3. Should be able to obtain appointment in Pediatric clinic quicker (say 2 or 3 days)--not 2 or 3 weeks
4	4. Ineffective walk-in system and too long a wait
4	5. Be able to make appointments farther ahead of time
3	6. Lacks flexibility to handle emergencies
3	7. Should be able to also schedule appointments from clinic level
3	8. Provision should be made for short-lead-time appointments
3	9. More phones
2	10. CAS generally poor
2	11. Waiting room time is too long
2	12. Better record system of both records and x-rays
2	13. Difficult to obtain appointment after working hours
2	14. More CAS clerks
2	15. Should be able to obtain general information concerning ailment over the phone
2	16. OB/GYN appointments takes weeks to months
1	17. CAS clerks should remain on duty during noon hour
1	18. Confusing as to when Pediatric clinic is accepting appointments (The complaint was worded: "I seem to encounter difficulty in getting an appointment at the Ped Clinic. At times when I call for an advance appointment they are not making any at the time. When I call later there is some question as to why I waited so long. It is somewhat confusing.")

- 1 19. Color code system makes it difficult to get an early appointment.
- 1 20. Appointment made with a specific doctor. When patient arrived doctor was not there
- 1 21. Need more doctors in the OB/GYN clinic.
- 1 22. Dental Clinic--took a month to get teeth--too long.
- 1 23. Better trained CAS clerks needed
- 1 24. More pleasant attitude needed from staff
- 1 25. Unable to obtain appointment in specific clinic without first seeing OPC
- 1 26. Should be able to see the particular doctor you want
- 1 27. Patient was embarrassed about the questions asked and felt this was none of the CAS clerks' business

The Army Medical Department is conducting a study of centralized outpatient appointment systems. (A centralized (or central) outpatient appointment system is one in which a group of clerks in one location make appointments for a number of clinics, usually by telephone.) Please take a moment to answer a few questions about your experience with the appointment system at this hospital.

INSTRUCTIONS: Please check the appropriate answer to each question in the blanks provided.

1. Have you made any appointments through the central appointment system at this hospital?

- 441 (100%) a. Yes.
_____ b. No.
_____ c. Don't know.

If your answer was a, please go on to question 2. If your answer was b or c, you do not need to complete the rest of the questionnaire.

2. Do you believe the central appointment system is generally convenient for you?

- 321 (72.8%) a. Yes.
69 (15.6%) b. No.
47 (10.7%) c. Not sure.
8 (1.8%) No answer

3. When you call the central appointment telephone number to make appointments what usually happens?

- 178 (40.4%) a. I usually get an appointment clerk right away.
26 (5.9%) b. I usually get a recording, but a clerk answers promptly.
12 (2.7%) c. I usually get a recording, and have to wait on the phone quite some time, but a clerk finally answers.
200 (45.4%) d. I usually get a busy signal.
20 (4.5%) e. I get some other response (please describe _____)
9 (2.0%) No answer _____.)

FT HOOD

4. Did the doctor have your medical record when you saw him today?

367 (83.2%) a. Yes.

50 (11.3%) b. No, it had to be tracked down.

3 (0.7%) c. No, and it could not be located.

25 (5.7%) No answer

5. Did the doctor already have your x-ray file when you saw him today?

37 (8.4%) a. Yes.

30 (6.8%) b. No, it had to be tracked down.

2 (0.5%) c. No, and it could not be located.

305 (69.2%) d. Not applicable: no x-rays were needed or requested for this visit.

71 (16.1%) No answer

6. Did you feel rushed when you saw the doctor? (That is, did the time you spent with the doctor seem too short?)

53 (12.0%) a. Yes.

339 (76.9%) b. No.

53 (12.0%)

7. What do you think about the length of time you spent in the waiting room to see the doctor?

87 (19.7%) a. It was too long.

303 (68.7%) b. It was reasonable.

21 (4.8%) c. No opinion.

34 (7.7%) No answer

8. Are you able to get information from the central appointment system clerk (operator) about hospital schedules, policies, clinic locations, etc.?

146 (33.1%) a. Yes.

32 (7.3%) b. No.

248 (56.2%) c. I have never asked for such information.

19 (4.3%) No answer

FT MOOD

9. Do the central appointment system clerks (operators) seem to know enough about illnesses to make you an appointment for the proper clinic when you describe your problem to them?

136 (30.8%) a. Yes, usually.

42 (9.5%) b. No.

240 (54.4%) c. I've never had to describe a health problem to an appointment clerk.

27 (6.1%) No answer

10. Are the central appointment system clerks (operators) courteous?

244 (55.3%) a. Yes, always.

131 (29.7%) b. Yes, usually.

40 (9.1%) c. Sometimes.

4 (0.9%) d. No.

26 (5.9%) No answer

11. Is the central appointment system able to make more than one appointment for you for a single day?

99 (22.4%) a. Yes.

33 (7.5%) b. No.

289 (65.5%) c. Don't know; I have never had to request more than one appointment for one day.

24 (5.4%) No answer

12. Is it easy to reach the central appointment system when you are inside the hospital, or the clinic area?

68 (15.4%) a. Yes.

122 (27.7%) b. No, the phones are usually busy.

20 (4.5%) c. No, you can only reach it by calling in from outside.

210 (47.6%) d. Don't know.

25 (5.7%) No answer

13. Can the central appointment system handle little-advance-notice appointments, such as "I would like to come in tomorrow", or "the doctor told me to come back in 2 days"?

82 (18.0%) a. Yes.

266 (60.3%) c. Don't know.

73 (16.6%) b. No.

AD-A032 498

ACADEMY OF HEALTH SCIENCES (ARMY) FORT SAM HOUSTON TEXAS
A STUDY OF APPOINTMENT SCHEDULING CONTROL FOR OUTPATIENTS. (U)
JAN 73 R B STUART

UNCLASSIFIED

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14. Do the appointment clerks seem to take a personal interest in you?

148 (33.6%) a. Yes. (54.4% of 272 with an opinion)

61 (13.8%) b. Sometimes. (22.4% of 272 with an opinion)

63 (14.3%) c. No. (23.2% of 272 with an opinion)

152 (34.5%) d. No opinion.

21 (4.8%) No answer

15. Were you able to get an appointment for this visit with the doctor you wanted?

267 (60.5%) a. Yes.

59 (13.4%) b. No.

5 (1.1%) No doctor requested

114 (25.9%) No answer

16. Was today's appointment scheduled for as soon as you wanted it?

346 (78.5%) a. Yes.

73 (16.6%) b. No.

26 (5.9%) No answer

17. Do you think the central appointment system at this hospital works well?

281 (63.7%) a. Yes. (81.9% of 343 with an opinion)

62 (14.1%) b. No. (18.1% of 343 with an opinion)

72 (16.3%) c. No opinion.

30 (6.8%) No answer

18. Please write below any comments you would like to make about the appointment system at this hospital.

DARNALL ARMY HOSPITAL
Q. 18, Patient Questionnaire
Frequency of Complaints

49 positive (favorable) responses
104 negative (critical) responses

<u>Frequency</u>	<u>Details of negative responses</u>
43	1. Inadequate telephone system
11	2. Should be able to make appointments at the clinic level
11	3. CAS generally poor
7	4. Need to be able to make appointments at the hospital
5	5. Should be able to obtain appointment in Pediatric Clinic quicker (say in 2 or 3 days)
4	6. Need more CAS clerks
4	7. Provision should be made for short-lead-time appointments
3	8. CAS clerks need to be better trained
3	9. Need better system to locate one's records
3	10. Walk-ins must wait too long
2	11. Trouble seeing the doctor one requested
2	12. Phone system congested from 0800-0900
2	13. Cannot get appointments when needed
2	14. Inadequate provision for walk-ins
1	15. Retired Army personnel dependents should be allowed to have dental work done.
1	16. Why doesn't the Urology Clinic use the CAS?
1	17. Employ automatic answering system rather than phone ringing many times before placed on hold
1	18. Suggests a hospital telephone service for just medical information not requiring an appointment

- 1 19. Take hospital phones off same circuit. People dial before checking to see if one is in use.
- 1 20. Felt CAS clerks ask needless, prying questions
- 1 21. Doctor should be able to send one to another Clinic without going thru CAS
- 1 22. More doctors needed to handle load
- 1 23. Took 2 1/2 months to get an appointment, even with a referral
- 1 24. Doctors should treat you patiently so you won't feel as though you are part of an assembly line
- 1 25. CAS clerk should ask the desired date the person wants
- 1 26. Why can't Pediatric Clinic give shots while child is there?
- 1 27. Was not informed that doctor would not be available at the appointment time patient had with him.
- 1 28. Provision should be made for walk-ins to take cancelled spots.
- 1 29. Greater flexibility on appointment times
- 1 30. Appointments should not be made so close together
- 1 31. Man the appointment desk 24 hours, 7 days a week
- 1 32. CAS clerks should speak louder
- 1 33. Wait is too long in Outpatient Clinic and Pediatric Clinic

APPENDIX 69

Comparisons of Patient Questionnaire Responses in Four Army Hospitals

Q. 2 Do you believe the central appointment system is generally convenient for you? (Those with an opinion.)

	<u>Yes</u>	<u>No</u>	
WBGH	579 (92.2%)	49 (7.8%)	
FGH	557 (93.0%)	42 (7.0%)	
MAH	415 (92.4%)	34 (7.6%)	
DAH	321 (82.3%)	69 (17.7%)	p < .001
	<u>1,872 (90.6%)</u>	<u>194</u>	

Q. 3 When you call the CAS what usually happens?

	<u>Get clerk right away (best case)</u>	<u>Get busy signal (worst case)</u>	
WBGH	172 (25.4%)	126 (18.6%)	
FGH	284 (43.6%)	198 (30.4%)	
MAH	188 (38.8%)	257 (53.1%)	p < .001
DAH	178 (40.4%)	200 (45.4%)	p < .01

Q. 3 (see above)

	<u>Get clerk or recording + clerk</u>	<u>Recording + wait, busy signal, other</u>	
WBGH	410 (62.1%)	250 (37.9%)	p < .01 vs FGH, p < .001 vs MAH, DAH
FGH	352 (55.0%)	288 (45.0%)	
MAH	196 (41.0%)	282 (59.0%)	
DAH	204 (46.8%)	232 (53.2%)	

Q. 4 Did the doctor have your medical record when you saw him today?
(Those with an opinion.)

	<u>Yes (a)</u>	<u>No (b + c)</u>	
WBGH	594 (92.8%)	46 (7.2%)	
FGH	530 (86.5%)	83 (13.5%)	
MAH	422 (92.5%)	34 (7.5%)	
DAH	367 (87.4%)	53 (12.6%)	p < .01

Q. 5 Did the doctor already have your x-ray file when you saw him today? (Those for whom this Q. was applicable, and could answer.)

	<u>Yes (a)</u>	<u>No (b + c)</u>
WBGH	119 (83.8%)	23 (16.2%)
FGH	80 (75.5%)	26 (24.5%)
MAH	63 (72.4%)	24 (27.6%)
DAH	37 (53.6%)	32 (46.4%)

Q. 6 Did you feel rushed when you saw the doctor?

	<u>Yes</u>	<u>No</u>
WBGH	69 (10.2%)	540 (79.6%)
FGH	64 (9.8%)	526 (80.8%)
MAH	27 (5.6%)	404 (83.5%)
DAH	53 (12.0%)	339 (76.9%)

Q. 7 Waiting time

	<u>Too long</u>	<u>Reasonable</u>
WBGH	93 (13.7%)	497 (73.3%)
FGH	109 (16.7%)	471 (72.4%)
MAH	40 (8.3%)	388 (80.2%)
DAH	87 (19.7%)	303 (68.7%)

Q. 8 Are you able to get information from the CAS?

	<u>Yes</u>	<u>No</u>
WBGH	376 (55.5%)	25 (3.7%)
FGH	323 (49.6%)	53 (8.1%)
MAH	251 (51.9%)	20 (4.1%)
DAH	146 (33.1%)	32 (7.3%)

Q. 9 Do the CAS clerks seem to know enough about illnesses to make you an appointment for the proper clinic when you describe your problem to them?

	<u>Usually</u>	<u>No</u>	
WBGH	415 (61.2%)	30 (4.4%)	p < .001 vs.FGH
FGH	339 (51.2%)	54 (8.3%)	
MAH	238 (49.2%)	22 (5.4%)	
DAH	136 (30.8%)	42 (9.5%)	

Q. 10 Are the CAS clerks courteous?

	<u>Always + usually</u>	<u>Sometimes + no</u>
WBGH	621 (91.6%)	34 (5.0%)
FGH	586 (90.0%)	44 (6.7%)
MAH	432 (89.2%)	32 (6.6%)
DAH	375 (85.0%)	44 (10.0%)

Q. 11 Is the CAS able to make more than one appointment for you for a single day?

	<u>Yes</u>	<u>No</u>	<u>Don't know</u>	<u>No answer or other</u>
WBGH	179 (26.4%)	47 (6.9%)	422 (62.2%)	30 (4.4%)
FGH	166 (25.5%)	45 (6.9%)	418 (64.2%)	22 (3.4%)
MAH	107 (22.1%)	28 (5.8%)	327 (67.6%)	22 (4.5%)
DAH	99 (22.4%)	33 (7.5%)	289 (65.5%)	24 (5.4%)

Q. 12 Is it easy to reach the CAS when you are inside the hospital, or the clinic area? (Those with experience with system.)

	<u>Yes (a)</u>	<u>No (b + c)</u>	
WBGH	73 (42.4%)	96 (55.8%)	
FGH	272 (73.5%)	98 (26.5%)	p < .001
MAH	97 (58.8%)	68 (41.2%)	
DAH	68 (32.4%)	142 (67.6%)	p < .05

Q. 13 Can the CAS handle short-lead-time appointments? (Those with experience and an opinion.)

	<u>Yes</u>	<u>No</u>	
WBGH	232 (65.9%)	120 (34.1%)	
FGH	247 (65.9%)	128 (34.1%)	
MAH	171 (64.3%)	95 (35.7%)	
DAH	82 (52.9%)	73 (47.1%)	p < .05

Q. 14 Do the CAS clerks seem to take a personal interest in you? (Those with an opinion.)

	<u>Yes</u>	<u>Sometimes + No</u>	
WBGH	273 (55.2%)	222 (44.8%)	p < .001 us. FGH
FGH	207 (43.1%)	273 (56.9%)	
MAH	169 (51.7%)	158 (48.3%)	
DAH	148 (54.4%)	124 (45.6%)	

Q. 15 Were you able to get an appointment for this visit with the doctor you wanted? (Those who asked for a specific doctor.)

	<u>Yes</u>	<u>No</u>	
WBGH	411 (78.9%)	110 (21.1%)	
FGH	412 (84.3%)	77 (15.7%)	
MAH	330 (88.2%)	44 (11.8%)	$p < .01$
DAH	267 (81.9%)	59 (18.1%)	

Q. 16 Was today's appointment scheduled for as soon as you wanted it? (Those who answered.)

	<u>Yes</u>	<u>No</u>	
WBGH	525 (80.1%)	124 (19.9%)	
FGH	471 (76.6%)	144 (23.4%)	
MAH	383 (84.5%)	70 (15.5%)	$p < .01$
DAH	346 (82.6%)	73 (17.4%)	

Q. 17 Do you think the CAS at this hospital works well?

	<u>Yes</u>	<u>No</u>	<u>No opinion, no answer, or other</u>	
WBGH	518 (76.4%)	45 (6.6%)	116 (17.0%)	
FGH	511 (78.5%)	41 (6.3%)	99 (15.2%)	
MAH	360 (74.4%)	31 (6.4%)	93 (19.2%)	
DAH	281 (63.7%)	62 (14.1%)	102 (23.1%)	$p < .001$
	<u>1670 (74.1%)</u>	<u>179</u>		

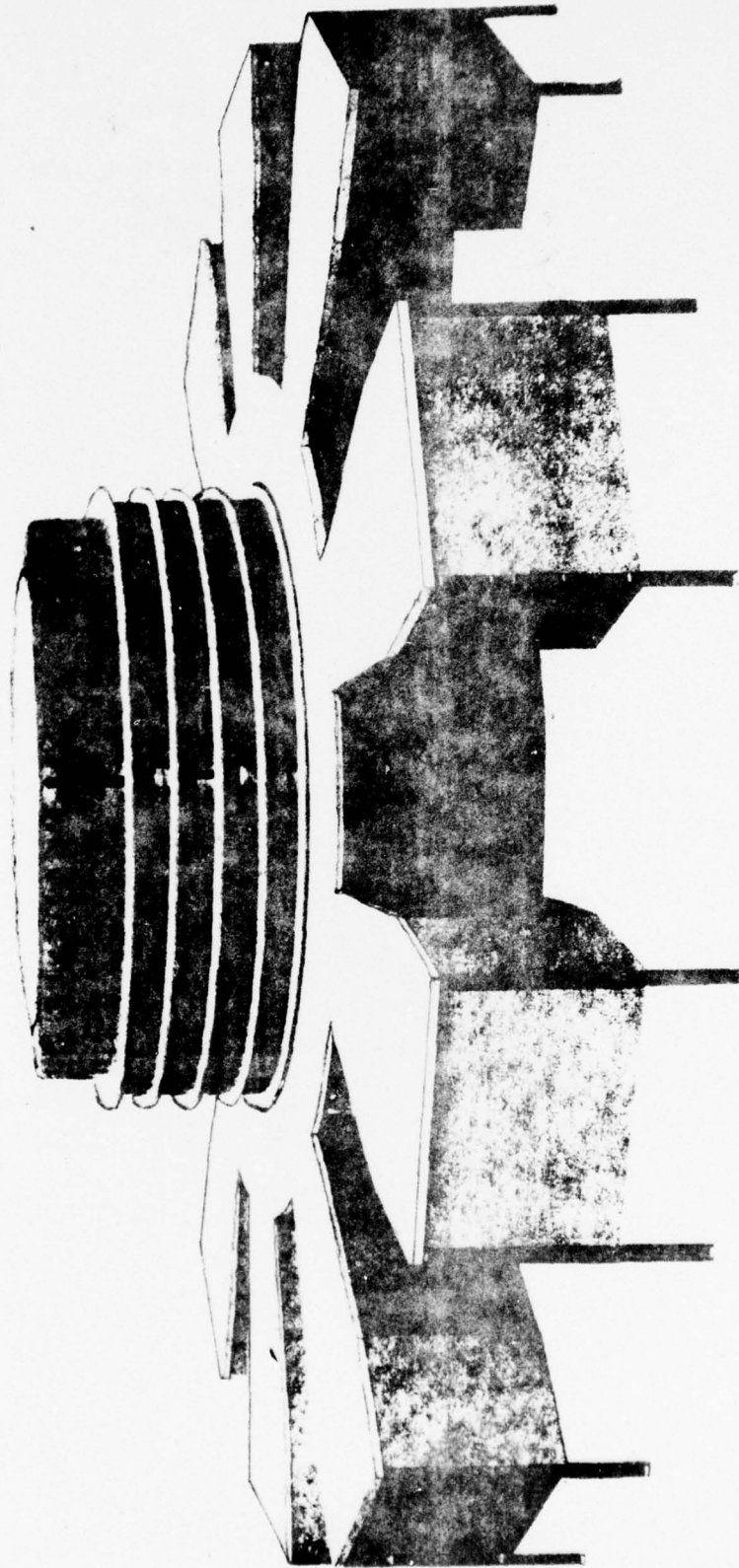
Q. 17 (Same as above, but only those with an opinion.)

	<u>Yes</u>	<u>No</u>	
WBGH	518 (92.0%)	45 (8.0%)	
FGH	511 (92.6%)	41 (7.4%)	
MAH	360 (92.1%)	31 (7.9%)	
DAH	281 (81.9%)	62 (18.1%)	$p < .001$
	<u>1670 (90.4%)</u>	<u>179 (9.6%)</u>	

APPENDIX 70

Acme Visible Records, Inc.
CAS Equipment
and Supplies

CAS Rotary File
WBGH





CENTRAC®

CENTRAC® SIMPLIFIES CLINIC SCHEDULING

Wright Patterson Air Force Base
Dayton, Ohio

To control their Clinic Scheduling of Patients, the Medical Center at Wright Patterson Air Force Base recently installed a 77 - 1/2" Single Tier Manual Centracs, equipped with permanent fins to accommodate 100 AT 12" x 22" Card Frames.



PREVIOUS METHOD

Three part forms were mounted on clip boards for Clinic Scheduling which resulted in a months supply of forms clipped to one board. A board was assigned to each doctor at the Clinic. This method proved to be awkward and inefficient because the forms would fall from the board when it was handled or picked up. Upon scheduling appointments or checking data, the employee would have to thumb through each snap-out set to find an opening for scheduling, or any other pertinent data requested. This system required four employees to answer all incoming calls for doctors in scheduling appointments and making cancellations.

NEW SYSTEM

Personnel are now positioned around Centracs, handling a voluminous number of incoming calls, appointments, cancellations, etc., for all doctors ~~and dentists~~ assigned to the base. ~~Dentists were added to the system upon installation of Centracs.~~ They are now using 100 Acme AT Frames which house a 30 day supply of hinged three-part snap-out forms (Central Point Register - AFLC Form 639A). One AT Frame is assigned to each doctor ~~and dentist~~ --- personnel can see at a glance patients who are scheduled for the day, the time, and by using the marginal notation column they are able to note existing conditions, i.e., if and when the doctor will be in, whether he is accepting appointments or if he is on call. All information is now centralized and immediately available with no interruption in performance of duties.

RESULT: ACME CENTRAC* FILES . . .

. . . SPEED THE FLOW OF PAPERWORK

Each incoming order, request or question is promptly processed because all related data is available in seconds. So there is no need for incoming papers or memos to accumulate. Nor need they be sorted after processing before handling at the next station. In short, papers are immediately converted into activity, costly delays are eliminated, and minimum personnel is needed for each record keeping function.

. . . PROVIDE BETTER CUSTOMER SERVICE

Since working documents are processed faster, they are completed faster. Materials are scheduled into production more quickly. Orders are filled in a fraction of the time; deliveries made sooner. What's more, CENTRAC permits you to give customers or prospects fast, accurate answers to questions or requests.

. . . COMPLEMENT COMPUTERS

Modern, high speed business machines are inefficient if their input or output cannot be processed and acted upon at once. The rapid, random-access filing and finding of an ACME CENTRAC permits you to keep pace with even a powerful computer and take full advantage of its speed. Custom designed CENTRACS take tab cards, automated cards and tape, printout sheets or printout binders, and magnetic tape reels.

. . . UPGRADE PERSONNEL

Because the whole record is available to all, CENTRAC promotes team spirit by increased, useful communication among the operators. Personnel can adjust or overlap the responsibilities needed to spread the work and speed the job. Each individual at CENTRAC station gains understanding and appreciation of the overall record-keeping function faster. Thus each individual becomes a more valuable, flexible, happier employee, requiring less supervision.

. . . EASE ABSENCE AND PEAKLOAD PROBLEMS

When personnel are absent from their stations, for vacation or illness, other members of the CENTRAC team can take over with little effort. During peakload periods, additional personnel can be accommodated around CENTRAC, thus cutting down considerably on overtime expense.

. . . REDUCE WORKER FATIGUE

Workers stay put, don't tire themselves out by constant walking about, by rolling out heavy drawers, by stooping or by lifting out bulky file folders. ACME CENTRACS are controlled by motorized, push-button operation or turn easily by hand.

. . . REDUCE WASTED TIME

When work comes to the worker, there is far less floor traffic, crisscrossing, physical confusion and tying up of files. Time previously lost is restored to productive activity, an important management benefit.

. . . ARE AMAZINGLY FLEXIBLE

With ACME CENTRACS extra tiers can be added to increase record capacity. Auxiliary work positions can be added to speed the data flow. Tele-communication equipment can be installed easily at any or all stations. Thus the benefits of centralized records extend throughout your entire operation or area. And you can add CENTRACS as required - all integrated and connected, if desired, by conveyor belts.

* Centralized Random Access

BOOK CENTRACS®

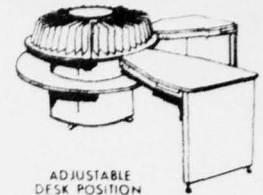
Book CENTRACS are highly efficient, multi-personnel information centers. Because books can be removed so easily, these CENTRACS provide quick, easy access to thousands of visible facts.

Any desired fact—from price lists, parts list, public utility records, bank balances or inventories—is available and can be transmitted by CENTRAC station phone in seconds. For, book CENTRACS permit direct telephone lines to each position. Incoming calls go through immediately. Even if the person primarily responsible for a given section of the file is occupied with a call, the new call can go to any person at the CENTRAC with no loss of time or efficiency.

Built-in accessories include telephone keyboxes, electrical receptacles, auxiliary work shelves or drawers, push-button controls, waste receptacle, circular shelves, plastic tops, modesty shields and purse hooks.



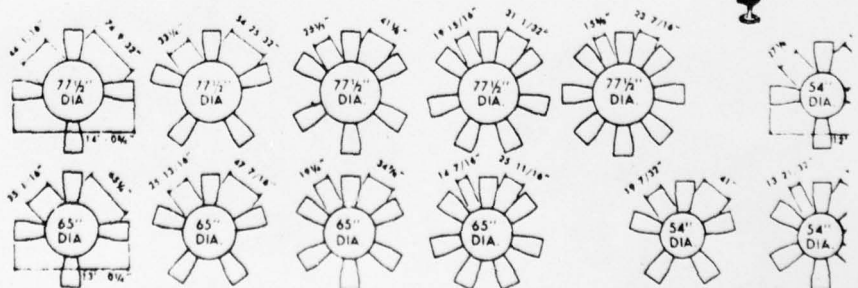
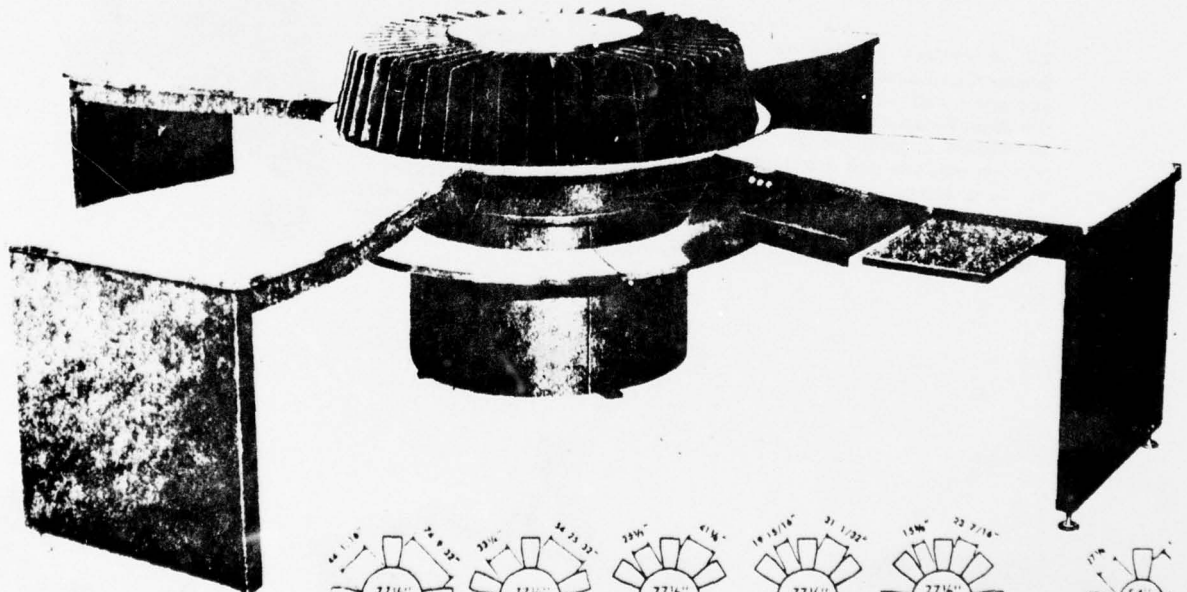
ADJUSTABLE DESK POSITION WITH PEDESTAL



ADJUSTABLE DESK POSITION

BOOK CENTRAC® WITH ADJUSTABLE POSITIONS

Work stations may be added, or subtracted as needed . . . or moved about the CENTRAC to meet peakload or space requirements. A circular shelf around the skirt, designed for telephone equipment and electronic secretaries is convenient to each position. The expansion feature of adjustable positions is attractive to many organizations — large or small.



EXPANSION LAYOUT FOR CENTRACS WITH ADJUSTABLE DESK POSITIONS

V Systems in EXPANDER UNITS



VV - Expanders provide optimum combinations of Record Capacities, Sturdy Construction, Modern Hourglass appearance and Flexibility. Especially suited for rapid Hand or Machine Posting application with emphasis on Automated Input machines. Unusual compactness and outstanding Record capacity permits concentration of large volume of records through multiple unit groupings; with each record available to an operator in a seated position, this model may be equipped with partial or full complement of Master Dividers dependent on immediate capacity requirements. Equipped with cover, lock and Modern Swivel Brake Casters in chrome finish. See Page 15 for color selection.



VVE STANDARD EXPANDER



TWO VVEW's



VVEW WIDE EXPANDER

Examples of Card Forms Used For Appointment Scheduling

Single Card
Form No. V1980-7

3 Part NCR Set
Form No. V2134-85

2 Part NCR Set
Form No. V2084-5716

Interleaf Carbon Set
Form No. 1930-6

3 Part NCR Set
Form No. V2054-5

4 Part NCR Set
Form No. V2214-6

MANY OTHER CARD FORMS ARE AVAILABLE - OR HAVE ONE DESIGNED FOR YOUR SPECIAL REQUIREMENTS

ACME **VISIBLE** RECORDS, INC. CROZET, VIRGINIA

• TIME AND APPOINTMENT SCHEDULE CODE
☐ TIME OPEN
☒ FILLED
☒ CANCELED
☒ REFILLED

DAY
 11 21 DATE

PHYSICIAN (13, 4)
 A⁶ SPONSOR'S SOCIAL SECURITY NUMBER
 B PATIENT NAME
 C PHONE NO.

RECORDS
 Y
 N

INITIAL VISIT
 FOLLOW UP VISIT
 ADD AIR FORCE
 ADD ARMY
 ADD NAVY MARINE
 OTHER ADD MIL SVC
 ADD NON MIL UNIF SVC
 RET UNIF SVC
 DEP AD AIR FORCE
 DEP AD ARMY
 DEP AD NAVY MARINE
 OTHER DEPN
 DEP RET DECD
 CIVIL SVC EML
 OTHERS

TOTAL VISITS BY PATIENT CATEGORY

AFLC FORM FEB 70 639A PC 8400
 CENTRAL APPOINTMENT REGISTER

9/8	7/8	6/8	5/8	4/8	3/8	2/8	1/8	12/7	11/7	10/7	9/7	8/7	7/7	6/7	5/7	4/7	3/7	2/7	1/7	12/6	11/6	10/6	9/6	8/6	7/6	6/6	5/6	4/6	3/6	2/6	1/6	12/5	11/5	10/5	9/5	8/5	7/5	6/5	5/5	4/5	3/5	2/5	1/5	12/4	11/4	10/4	9/4	8/4	7/4	6/4	5/4	4/4	3/4	2/4	1/4	12/3	11/3	10/3	9/3	8/3	7/3	6/3	5/3	4/3	3/3	2/3	1/3	12/2	11/2	10/2	9/2	8/2	7/2	6/2	5/2	4/2	3/2	2/2	1/2	12/1	11/1	10/1	9/1	8/1	7/1	6/1	5/1	4/1	3/1	2/1	1/1
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FORM NO. V9989

3-PART INTERLEAF CARBON VERI-VISIBLE CARD 8" X 10", PERMANENTLY HINGED
70-8

Sample Appointment Register

PATIENT			PHONE NO.		CATEGORIES										DOCTOR					
Last	First	MI	SSAN	NO	YES	AD AIR FORCE	AD ARMY	AD NAVY-MARINE	OTHER AD MILITARY SVCS	RETIRED UNIFORM SVCS	DEPN AD AIR FORCE	DEPN AD ARMY	DEPN AD NAVY-MARINE	OTHER DEPENDENT	CIVIL SERVICE EMPLOYEE	OTHER	MO	DAY		
																			7	30
																				45
																				00
																			8	15
																				30
																				45
																				00
																			9	15
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																				30
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																			3	15
																				30
																				45
																				00
																			4	15
																				30
																				45
																				00
																			5	00

TOTAL VISITS BY PATIENT CATEGORY

ATC

FORM
MAR 72

501

PREVIOUS EDITIONS MAY BE USED

DAILY APPOINTMENT REGISTER
(15 Minute Schedule)

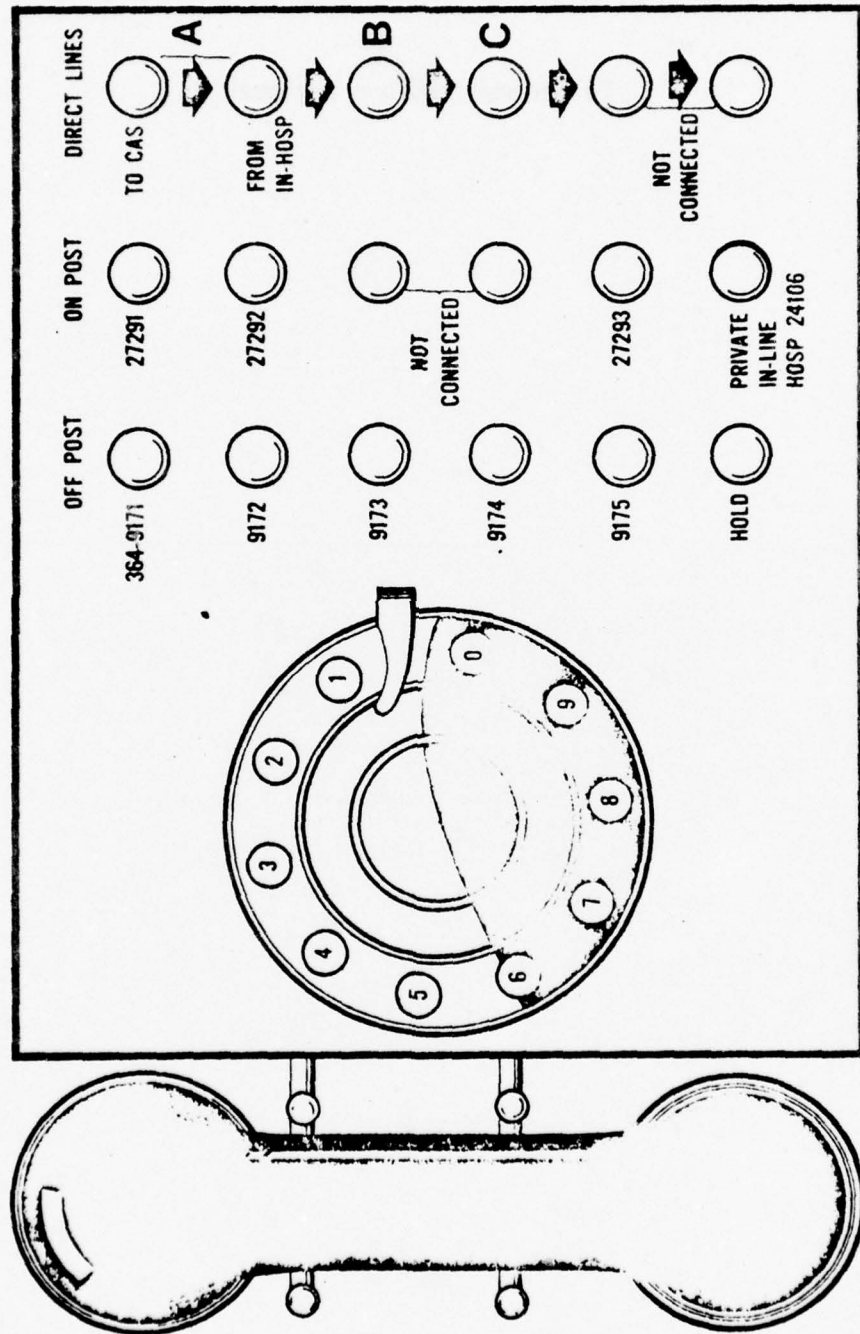
70-9

APPENDIX 71

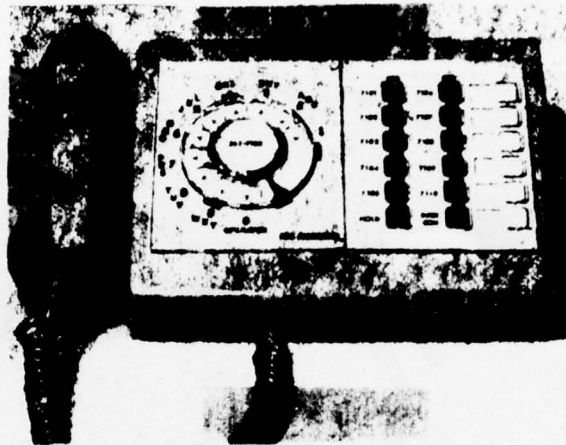
Telecommunications Equipment

Call Director
Fitzsimons General Hospital CAS

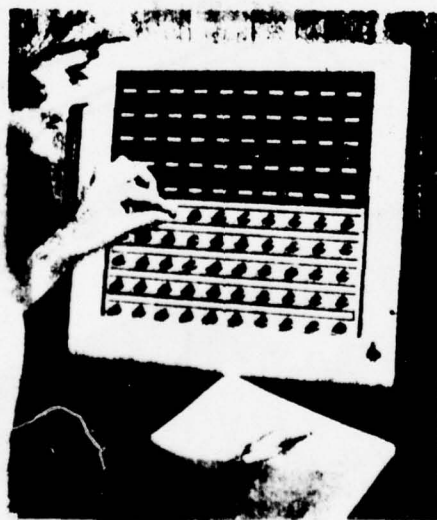
PHONE AND PANEL/CALL DIRECTOR



GTE Automatic Electric Company Equipment

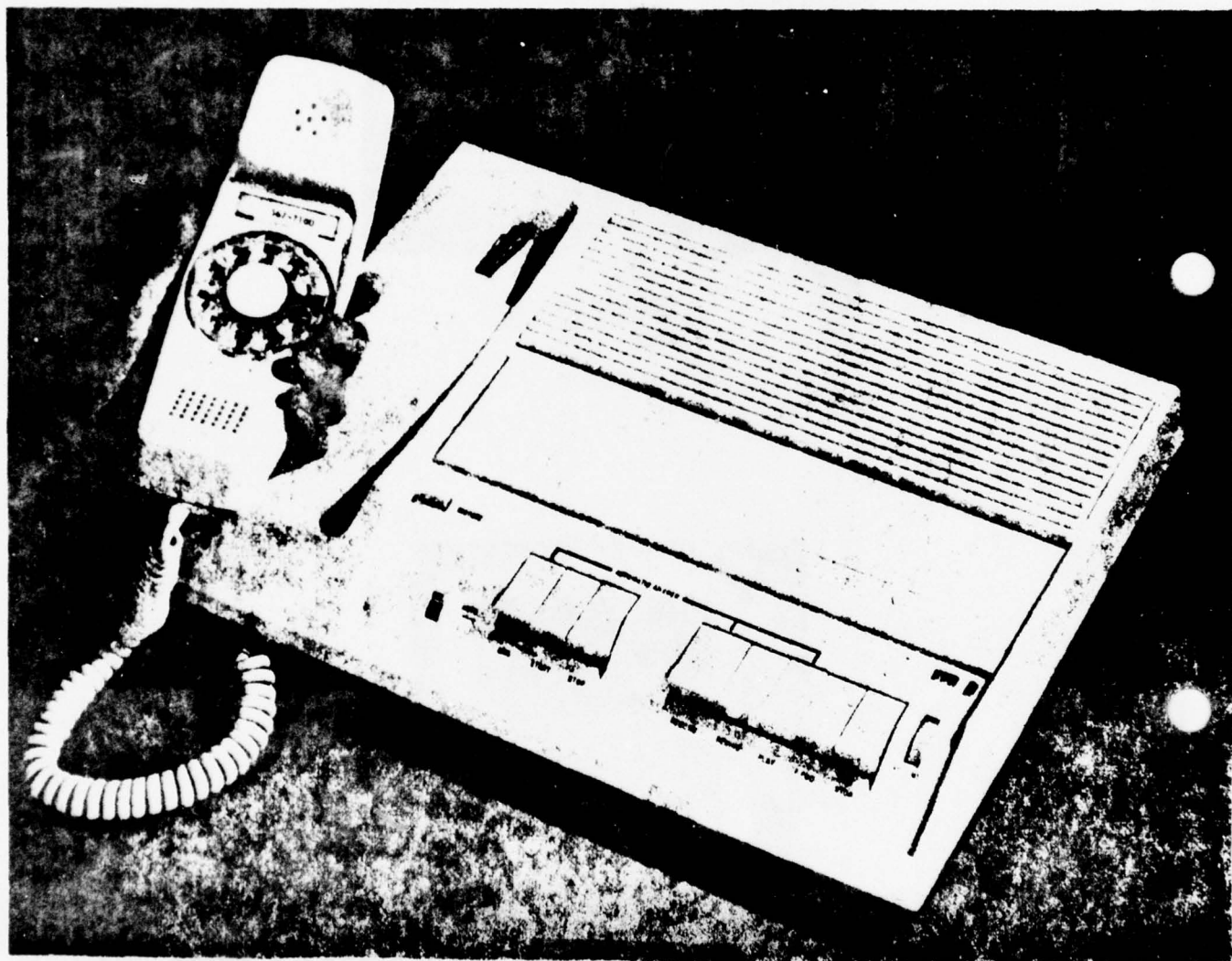


Call Director
A

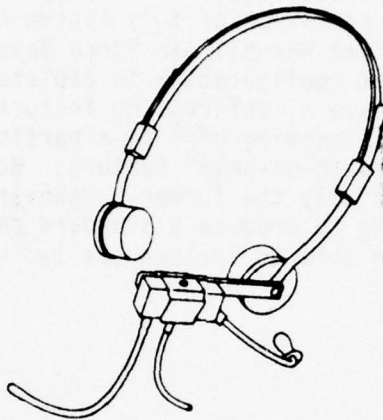


Telephone Traffic Monitoring Meters
B

Electronic Secretary
Model 985B
GTE Automatic Electric Company

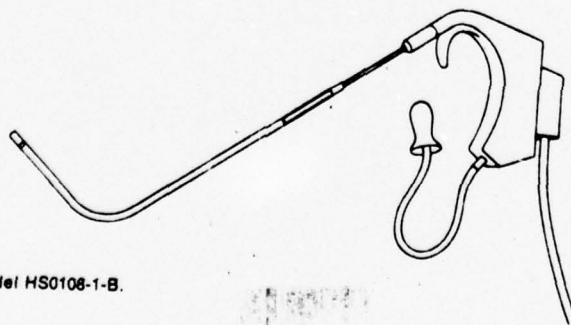


Pacific Plantronics Communications Headsets



Typical of models MS50-59, -60, -69, -70, -71,
/T30-3, /T55-2, /T55-6, /T61-12-1 and /T62-10-1.

Model MS
A



StarSet model HS0106-1-B.

Star Set Model
B

GTE Automatic Electric Company
Call Intercept Storage and Transfer System

The above system is being developed by the GTE (General Telephone and Electronics) Automatic Electric Company. To date it is still experimental, but a prototype of this system has been installed at the USAF Hospital at Maxwell Air Force Base, Montgomery, AL. As the current system configuration is depicted on the following pages, it does not have a conferencing feature to allow a CAS clerk to transfer an incoming call to a particular clinic. It also does not have any "music-on-hold" feature. Both of these features are desirable, especially the former. However, Automatic Electric engineers are working to produce a standard package that can be marketed and will be able to include the two referenced features.

PROVISIONAL**KEY CALL DISTRIBUTION SYSTEM WITH RECORDED MESSAGE
or
CALL INTERCEPT STORAGE AND TRANSFER SYSTEM****I. SITUATION**

In offices where a large number of calls are received and operators cannot always answer promptly, the caller is quite often annoyed by long waits. The previous solution for this situation was usually an ACD system, however, ACD may prove to be too expensive or otherwise impractical for all situations.

II. SOLUTION**1. Description**

The Key Call Distribution System with recorded message (KCD) allows time out of the ring and automatic transfer to an intercept announcement. The ring count and transfer circuit is adjustable to either first-ring, fourth-ring, or fifth-ring transfer. It can also be disabled by a key so that no transfer will take place.

2. Operation (Refer to block diagram #1)

When a call is received the key system telephone lamp will flash until transfer takes place (if unanswered). When the ring count circuit transfers the call, ringing will cease but the key system telephone lamp will continue to flash at 60 IPM indicating a call is waiting. The caller will receive one cycle of the recorded message and will be held until the operator answers the call. The operator may answer the call any time during the operation. Maximum length of the recorded message is ten seconds. The recorded message may contain information that will aid processing of the call when answered, such as in the case of a hospital clinic, requesting caller have social security number, or insurance information available.

III. PHYSICAL DESCRIPTION

The KCD System with Recorded Message (refer to figure #1) is capable of being mounted on standard relay racks, or into miscellaneous apparatus cabinets, dependent upon application. Figure #1 illustrates both versions. The capacity limit of the system illustrated is 9 incoming lines, as based on one (1) card file for the Ring Count and Transfer Circuit. If a GTE-AE Key System is being modified to provide this service, the 24 VDC power supply and WA-1400-D line cards are not necessary. It is also possible to add a second INT-2B-AE recorder with an additional transfer circuit to give night or off-duty intercept service without the necessity of changing messages. The system is compatible with key systems of non-GTE-AE manufacture.

IV. ORDERING INFORMATION

Refer to Table "A" for ordering information. The standard ring count and transfer card file will serve 9 lines (one WA-1179-A card circuit per line).

V. ADDITIONAL LITERATURE

GTE Practices

- 209-461-101 Intercept Recorder INT-2B-AE Description
- 209-461-201 Intercept Recorder INT-2B-AE Installation
- 209-461-301 Intercept Recorder INT-2B-AE Operating Instructions
- 209-461-701 Intercept Recorder INT-2B-AE Maintenance
- 507-507-100 Ring Counting and Transfer Circuit

cc: R. D. Fitzgerald

Distribution:

- Division Manager
- District Managers
- Staff Engineers
- Marketing Representatives
- Contract Director
- B. W. Bishop
- D. A. Starbuck

RING-COUNT & TRNSF CARD FILE (24 VDC)	
1	9
H-888145-1	E/W WA-1179-A
1 LINE CKT CARD FILE 13	
H-886584-5 E/W WA-1400D	
RECORDER INT-2B-AE	VACANT
INTERCEPT TRUNK CKT (modified)	
INTERCEPT TRUNK CKT (modified)	
VACANT	POWER SUPPLY

1a. RELAY RACK MTG

RING-COUNT & TRANS CARD FILE	
1	9
RECORDER INT-2B-AE	VACANT
INTERCEPT TRUNK CIRCUIT (modified)	
INTERCEPT TRUNK CIRCUIT (modified)	

KEY SYSTEM
Apparatus Cabinet
H886768-1
(For AE Key System)

1b. Cabinet mounting.

FIGURE 1. METHOD OF MOUNTING

ITEM	DESCRIPTION	PART NUMBER	PRICE*
1	Apparatus Cabinet **	H-886768-1	\$ 40.00
2	IND Line Unit (1 per line)	H-883002-2	35.00
3	Ring-Count Trans CKT Card File (9CKT)	H-888145-1	245.00
4	Ring-Count Trans CKT Card (1 per line)	WA-1179-A	55.00
5	Recorder Announcer	INT-2B-AE	300.00
6	Intercept Trunk CKT (modified)*	H-85500-()	370.00
7	13 Line Panel for Line Cards (if systems not GTE AE mfg.)	H-886584-5	135.00
8	Std line card (1 per line)	WA-1400-D	25.00
9	24VDC Power Supply	FD-1040-DA	116.00
10	7'G" Relay Rack** (as required)	H-884720-1	100.00
		(TOTAL	\$1421.00)

* Each TRK CKT handles 5 lines.

* Not
Firm

** Or relay rack if power sply
and individual line cards
are required

TABLE A. Ordering Information - KCD System

By using key telephone system circuits, Bell Labs engineers have built a call distributor that is economical for small businesses. Much smaller than its predecessors, the 4A is, nevertheless, available with many attractive features, such as transfer and overflow.

A Small Call Distributor Based On the Key Telephone

C. E. Morse

IN THE LATE 1950's, department store managers began urging consumers to "shop by telephone." To accommodate the volume of calls, therefore, stores needed an efficient system for distributing them among attendants. The job of the attendants was to handle requests by customers over the phone in the order that the calls came in.

This kind of system had already been considered by Bell System Operating Companies and recommended by an AT&T study. The study indicated that other businesses in addition to retail stores—airlines, public utilities, mail order houses, and repair bureaus—needed such a service. A new system was therefore introduced by the Bell System in 1962—the 2A Automatic Call Distributing System (ACD). The 2A system was not intended to handle a large volume of calls. For businesses requiring a system with a greater call-handling capacity, the 3A ACD was introduced at about the same time. And since then, there's been an ever-increasing demand for call distributing systems

(see No. 5 Crossbar Automatic Call Distributor, RECORD, December 1968).

Now we are introducing an economically priced system even smaller than the 2A. The system, known as the 4A, gives the Bell System several models of call distributors from which a customer can choose one to fit his particular needs.

The design of the 4A departs from that of the other call distributors because it is built around a key telephone system (see *Advances in the 1A2 Key Telephone System*, RECORD, October 1970). Although many circuits from the key telephone system have been incorporated into the 4A, the new call distributor is not, however, a converted key system—their designs and functions differ substantially. But, by using key telephone system circuits in the 4A, engineers at Bell Laboratories have been able to build a call distributor economically attractive for small businesses.

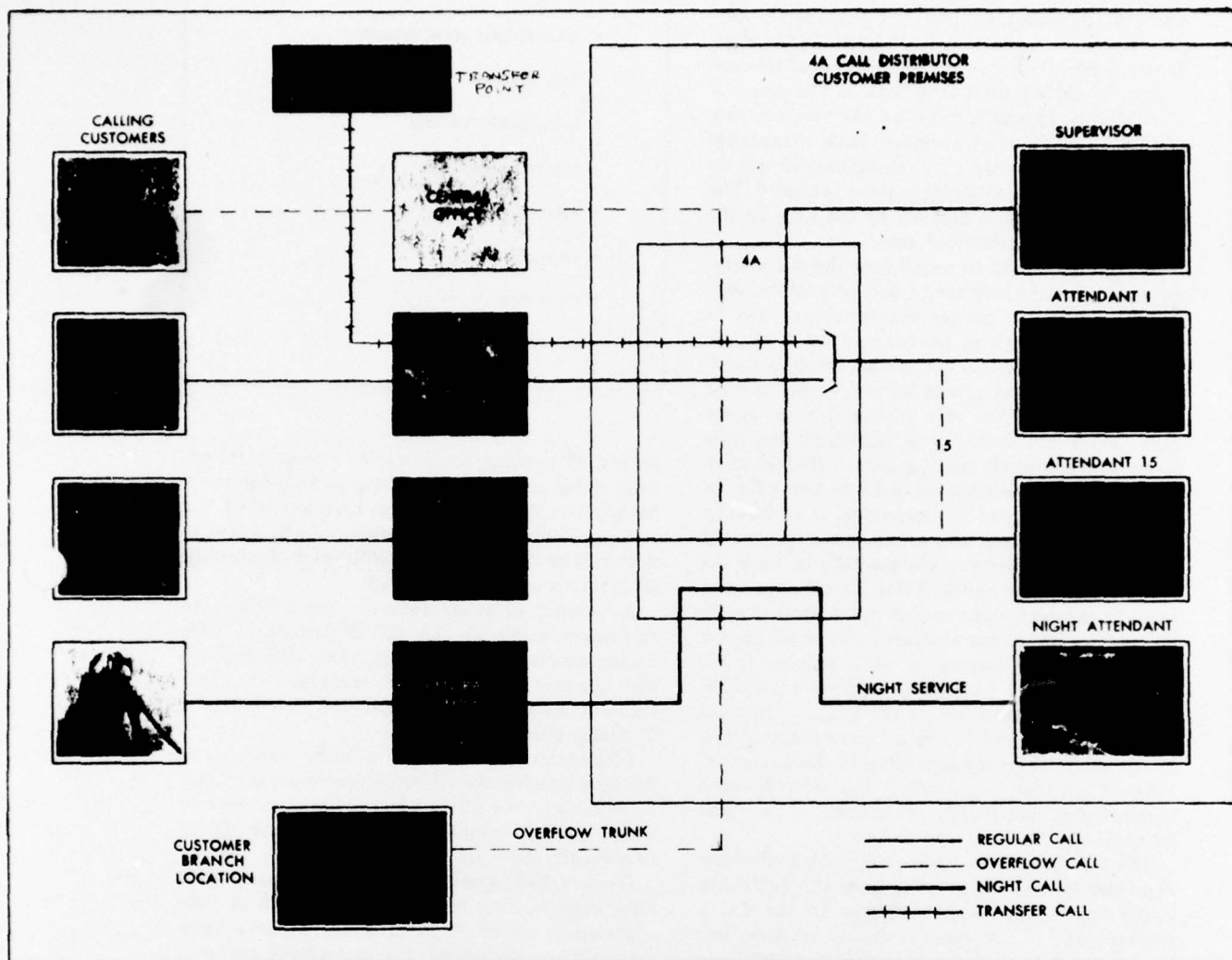
Here's how the 4A and its predecessors—the 2A and 3A—compare. The 2A and 3A are switch-

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A 4A call starts when a customer (left) dials the directory number of a business using the 4A call distributing system. The central office (center) switches the customer to a trunk serving the 4A. The system recognizes the incoming call, places the call in queue, and alerts the attendant(s) (right) by lighting a lamp associated with the incoming trunk on each attendant console. If other calls are waiting in line, this call will wait for an attendant until it reaches the top of the queue. The next available attendant will answer the call. Once an attendant is reached, the customer requests whatever service he requires. When an attendant is un-

able to handle the customer's needs, the customer can be directed to a third party by using the transfer feature. The attendant depresses a transfer key, placing the customer on hold, depresses the pickup key of an idle central office or PBX line, and dials the directory number of the third party. When the third party answers, the attendant depresses an add-on key, which joins the three parties together in a conference call. During peak traffic periods, the supervisor can put the system into a mode called overflow. Then an incoming call which meets a busy condition of the 4A will be routed to a branch office for service

ing machines that automatically connect any one of numerous input trunks (which interconnect the call distributor with the central office) to one of many attendants who receive telephone calls. The 4A, by comparison, cannot do any switching itself. When a call is received by the system, a lamp lights on the attendant's console. The attendant then must depress a key to connect the trunk to the console. The 2A and 3A systems are considerably larger and more complex. They require many bays of switching equipment to handle incoming calls.

The 2A, for example, handles up to 56 incoming trunks and 60 attendant positions; the 3A handles up to 198 incoming trunks and 200 positions. By contrast, the 4A serves 20 incoming trunks and up to 15 attendant positions.

The concept of the 4A system originated from a study by Bell Laboratories comparing the cost of a large system, such as the 3A, to that of a key telephone system. The difference in cost was significant enough to urge engineers at Bell Labs to consider the key telephone system as a basis for

a new call distributor. According to the study, new call distributor circuits could be added to the standard key telephone system, and the cost of the new system would be below the cost of the existing ACD systems. In addition to the savings, the new system would be more compact. Both advantages result because neither a switching matrix nor its associated common control circuitry is needed. The switching function is fulfilled by the keys on the attendant/CALL DIRECTOR® sets.

Before describing in detail how the 4A works, let's first examine how the 2A and 3A process calls. A call distributor queues the incoming calls in groups. This task is performed by a simple "gating" circuit. When the system receives a call, the gate closes and allows no more calls to pass until the first call has been answered by an attendant. After the first call is answered, the gate opens and allows all waiting calls, which have in the meantime accumulated outside the gate, to pass and be answered by attendants. If all waiting calls were not passed as a group, a memory would be needed to determine the position of each individual call in the queue. After the calls pass, the gate closes again, and remains closed until all calls that passed have been answered. No trunk can be handled twice in succession while another trunk has a waiting call, because the system automatically takes that trunk out of the queue as soon as it has been serviced. When calls are waiting in a group, each is handled according to the numerical order of the trunk on which it has arrived—each trunk being arbitrarily numbered in a fixed sequence.

The 4A system operates somewhat differently from the 2A and 3A since it lacks the switching equipment of the larger systems. In the 4A, a similar gate circuit handles incoming calls, but the trunks are not placed in queues to await their turn. Instead, calls entering the gate circuit, in the order of their arrival, light a particular lamp on the attendant's call director sets. The attendants are therefore visually informed of each succeeding call that should be answered. The attendant may answer the longest waiting call or may answer a priority line if its lamp is lit. Priority lines can be established by color-coding those lamps according to their importance to the system. These lines are often set up between customers transacting large volumes of business so that their calls need not wait in a queue.

The question naturally arises, how does the attendant determine which calls are in the group being serviced and which calls are new arrivals waiting in the queue? The first call into the system causes the appropriate lamp to flutter, or switch

- QUEUING OF CALLS
- DELAYED-CALL ANNOUNCEMENT
- CALL TRANSFER
- SUPERVISORY CONTROL
- TRAFFIC MONITORING
- CITY IDENTIFICATION
- NIGHT TRANSFER
- OVERFLOW
- PRIORITY CALLS

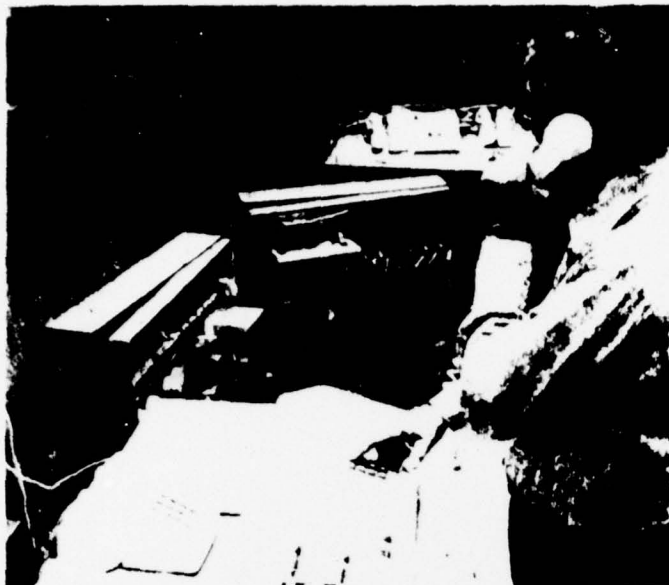
on and off quickly. As this call is being serviced, succeeding calls cause the appropriate lamps to flash. When the initial call has been answered, the flashing lamps of the next waiting calls begin to flutter. The following calls will again flash until all previous calls are answered.

A number of other features are available to customers using the 4A call distributor. These features include: 1) city identification, 2) delayed-call announcement, 3) call transfer, 4) night transfer, 5) overflow, 6) supervisory control, and 7) traffic monitoring.

City Identification: Each incoming trunk, specified by a lamp on the attendant's console, is labeled by number or is color-coded to indicate the city where calls originate. The same trunk group handles all calls from a particular city.

Delayed-Call Announcement: When any calls have been waiting for a specified length of time—generally about three or four rings—a tape-recorded announcement is automatically switched on with a message for the customers. The customers may then either abandon their calls or remain on the line until attendants are able to answer. During an announcement, the status of the calls remains unchanged on the attendant sets until each call can be answered by an available attendant. The message is recorded on a small magnetic-tape recorder which has a three-minute running time. The machine automatically stops, rewinds at the end of a message, and plays the message again if the call is still waiting at the end of the specified interval. The tape recorder is controlled by a supervisor, who can dictate a message, play back the recording as a check, or take the recording out of the call distributing system.

Call Transfer: Two kinds of call transfer are available—1) a transfer within the system from



John Evans of Bell Labs tests a 4A call distributing system from the supervisor's console (foreground) at a laboratory in Holmdel, N. J. The equipment is compact and easy to transport.

attendant to attendant or from attendant to supervisor, and 2) a call transferred out of the system. When a customer's call must be transferred, the attendant places the call on "hold," calls the desired attendant or supervisor on an intercom, and instructs the person to pick up the appropriate line. In the second kind of transfer, the call must again be placed on "hold" to allow the attendant to choose another trunk within the system. The attendant then calls the desired party over this trunk. As soon as the party can accept the call, the attendant pushes the ADD-ON key on the console, connecting the two calls. The attendant can, if necessary, join the conversation in conference or can disconnect from the line on the console and proceed to the next call.

Night Transfer: This mode of operation is useful after normal business hours. The system routes incoming calls from the possible 20 trunks to one of three trunks. Night personnel on duty may then accept messages from calling customers.

Overflow: Functioning similar to night transfer, the overflow feature routes calls to attendants at other locations via a special trunk when all attendants at one location are busy. Overflow is controlled by the supervisor, who monitors the traffic. This feature enables the supervisor to distribute the load of calls better among other locations. A call will not be routed to overflow, however, if attendants are able to accept calls. As long as an attendant's headset is plugged into the console or the IN key is depressed, a supervisor is aware that an attendant is ready to accept calls.

Supervisory Control: In addition to controlling

night transfer, overflow, call transfer, and delayed-call announcement, the supervisor exercises three other functions. On the supervisor's console is a RINGER-CUTOFF key which, when depressed, cuts off all of the ringing tones signaling incoming calls, for quieter operation. Since the supervisor has no switch hook with which to hang up, a RELEASE key serves this function. When it's depressed, all keys on the console return to their normal, non-operating position. The supervisor's console also contains a field of monitoring keys—one for each attendant—which can be used for training purposes. The supervisor can monitor an attendant without interfering with the attendant's function.

Traffic Monitoring: This feature is designed to help a business assess the amount of traffic it can expect to handle with the number of trunks it has in service and the number of attendants at call distributing sets. Depending on the kind of business, demands on the system may vary greatly, either daily or from season to season. During a busy season, for example, the calling traffic may change dramatically. Therefore, in the ACD's now offered by the Bell System, measuring systems are provided. From these measurements, a business manager can determine how many trunks and attendants will be needed.

The 4A system can provide information on: 1) incoming traffic, 2) transfer traffic, 3) overflow traffic, and 4) attendant status. Electronic circuits, called totalizers, can be applied to any of these categories of traffic to give a measure of the total amount of traffic in the system for that particular category. To count the number of calls on any particular trunk, message registers are used.

Other measurements are made on the attendant status. Attendant status is indicated as either manned (ready to accept calls), busy, or idle (no one at attendant console). Three measurements are possible: 1) a traffic usage recorder measures the total number of minutes each attendant is busy, 2) a message register counts the number of times an attendant's status changes from idle to busy, and 3) a totalizer counts the entire call-handling activity of all attendants.

The 4A system has been tested in three locations across the country—by TWA in Philadelphia, the Repair Service Bureau of the Chesapeake and Potomac Company in Baltimore, and the Social Security Administration in Milwaukee. Customer reaction has been favorable. In addition, AT&T is demonstrating the new system around the country. The 4A call distributor—small, easily constructed, and economical—will soon be a standard Bell System offering.

APPENDIX 72

William Beaumont General Hospital
Telephone Courtesy and Procedures

1. Follow common-sense courtesy in applying telephone techniques. Speak to a caller as you would desire to be spoken to if you were the person calling.
2. Appointment information is written or circled directly onto the Appointment Record, WBGH Form 11-113.
3. The following general procedures are used to answer a telephone call and/or schedule a routine appointment:
 - a. "GOOD MORNING (OR AFTERNOON), CENTRAL APPOINTMENTS, MRS. (APPOINTMENT CLERK) ."
 - b. NOTE: It is assumed that the caller will ask for an appointment -- if not:

"MAY I HELP YOU?"
 - c. "MAY I HAVE YOUR FULL NAME, PLEASE, AND DAYTIME TELEPHONE NUMBER?"
 - d. If a male's voice: "WHAT IS YOUR MILITARY RANK AND YOUR SOCIAL SECURITY NUMBER?"
 - e. If unknown to you whether the patient is over or under fourteen years of age, ascertain this information (e.g., "IS YOUR CHILD OVER FOURTEEN YEARS OF AGE?")
 - f. "HAVE YOU VISITED ANY CLINIC AT WILLIAM BEAUMONT GENERAL HOSPITAL WITHIN THE PAST YEAR?" (1968 and 1969 records are available.)
 - g. If the above answer to (f) is "Yes", answer: "THEN I AM SURE THAT YOU HAVE A CURRENT WILLIAM BEAUMONT RECORDING CARD. IS THIS CORRECT?"

NOTE: If not, ask the patient to obtain a recording card with Sponsor's Social Security Number on it. Inform the patient of the correct location. Obtain this information from your supervisor.

TELEPHONE COURTESY AND PROCEDURES (Continued):

- h. "I WILL GIVE YOU YOUR APPOINTMENT INFORMATION, WHICH I AM SURE YOU WILL WANT TO WRITE DOWN."
- i. Follow the format on the Appointment Slip, WBGH Form 11-38, 1 April 1969: Clinic, Date, Building, Time, Floor, Day of Week, Doctor's Name.
- j. Obtain enough information for encircling the diagnostic code applicable to the reason for the appointment.
- k. "WOULD THE 10TH OF OCTOBER AT 2:00 P.M. (OR 1400 HOURS, IF A MILITARY-ORIENTED PERSON) -- THAT IS ON THURSDAY -- BE CONVENIENT FOR YOU?"
V
- l. Then: "WILL YOU PLEASE REPORT TO THE _____ CLINIC IN BUILDING NUMBER _____, _____ FLOOR, AT 2:00 P.M. (OR 1400 HOURS). YOU ARE REQUESTED TO COME IN AT LEAST _____ MINUTES EARLY (According to the Clinic SOP).
- m. "THANK YOU AND GOOD-BYE."
- n. In all conversations with patients, avoid using such abrupt phrases as: "YOU HAVE TO," "YOU MUST," or "THAT IS AN ARMY REGULATION"
- o. Refer all troublesome calls to your Supervisor by placing the patient's call on "Hold" and dialing the Supervisor and asking her to pick up the appropriate numbered line.

APPENDIX 73

Appointment memorandum
William Beaumont General Hospital

APPOINTMENT MEMORANDUM
THIS IS NOT AN APPOINTMENT SLIP
PLEASE CALL <u>562-2211</u> AS SOON AS <small>(Telephone No.)</small>
POSSIBLE FOR FUTURE APPOINTMENT ON OR ABOUT _____ <small>(Date)</small>
DOCTOR <u>Lipshultz</u>
TIME REQUIRED FOR TREATMENT _____ <small>(Minutes)</small>

WBGH Form 11-112, 1 Apr 69
Army, Fort Bliss, Texas 29531-V28

APPENDIX 74

William Beaumont General Hospital

STANDING OPERATING PROCEDURE for PEDIATRIC CLINIC APPOINTMENTS

1. As of February 1, all pediatric appointments will be made through the Central Appointment Desk.

a. If the problem is one of long duration, or if the call is for a follow-up appointment, a regular clinic appointment for greater than 3 days in advance should be made, if possible.

Example: School problems, vision checks, orthopedic problems.

b. If the parent is requesting a "check-up", make the appointment for greater than 1 week in advance.

Example: Routine check-up on well children between ages 2 and 4 years, heart murmurs, et cetera.

2. If the parent wants an appointment right away and the problem appears to be an acute one, give them a general clinic appointment within the next 2 days, if possible.

Example: Mild abdominal pain, allergy, headaches, cough.

3. If child is in pain, having trouble breathing, or has high fever, arrange a pediatric direct visit that same day.

Example: Earache, high fever, trouble breathing, severe pain of any kind, injuries, diarrhea and vomiting, in a young child particularly.

4. If the clerk has any questions about whether a child should be seen right away, she should call the Pediatric Clinic (Mrs. Henderson—8-2700) for clarification.

5. When making pediatric direct appointments, write patient's name on Form 11-17, as directed on sample. For each doctor on Walk-Ins, make 2 appointments each 15 minutes, except for the times blocked out. If, or when, all slots are filled for a particular day, call Pediatric Clinic for further instructions (usually we will start making 3 appointments per 15 minutes).

6. IMPORTANT: The clerk should tell the patient to come at the time listed. However, the patient should be told that this is not an official appointment and that she will be seen somewhere near that time but not necessarily at that time.

7. In the morning the receptionist from the Pediatric Clinic will call for morning appointments and will call periodically for additions. The afternoon schedule may be picked up at noon by Pediatric Clinic personnel.

Fitzsimons General Hospital

GYN PROBLEMS AND COMPLAINTS

DYSMENORRHEA Primary - (painful menstruation)
SECONDARY - Common type of dysmenorrhea

1. pelvic inflammation
2. endometriosis
3. polypoid growths within uterus.

SYMPTOMS: Cramps -treatment - mild pain relievers with exercise

DYSPAREUNIA Painful intercourse

PELVIC INFECTIONS

1. Skin becomes inflamed, burning, itching, frequency of urine.

VIRUS INFECTIONS

May cause warty growths (condyloma acuminata) on the skin around the vulva and anus. These are not venereal.

2. There are (three) most common vaginal infections:

- a. Yeast infections
- b. Trichomoniasis
- c. Hemophilus vaginalis (infection)

3. All of these cause increased vaginal discharge with itching and burning.

4. YEAST INFECTIONS:

- a. Common in pregnancy and in diabetes.
- b. The discharge is white and cheesy.

5. TRICHOMONIASIS:

a. Caused by a one-celled microscopic organism of the animal kingdom. The minute creature is pear-shaped, and highly infectious.

SYMPTOMS: The discharge is thin, white, and foamy, with an offensive odor. It causes redness of the vagina, associated with burning, irritation, itching, and chafing of the skin. The patient complains of painful intercourse, painful urination, and soreness.

6. HEMOPHILUS VAGINALIS:

- a. Caused by a (bacterial) organism.
- b. Symptoms are the same as trichomoniasis, but rather rare.

CERVICITIS

1. Infection of the cervix may be due to gonorrhea, syphilis, or some specific infection.

POLYPS

1. Small fleshy growths.
2. Growths are almost always benign; they develop around the cervix or uterus.

FIBROID TUMORS: (Tumors of the muscle and connective tissues)

1. Tumors are multiple and knobby, cause the uterus to be like a lumpy potato.
2. Symptoms: if growths are large enough they will cause difficult urination, constipation, vague feeling of heaviness and disturbances of menstruation.

OVARIAN CYSTS:

1. A cyst is a sac containing fluid or mucoid material.
2. May cause abdominal pain that may be like appendicitis.

ENDOMETRIOSIS: (Tissue which lines the uterus.)

1. Fragments which might migrate to other parts of body and implant themselves there. These cysts are commonly found in ovaries, tubes, uterus, or the peritoneum lining of the pelvic cavity.

UTERINE DISPLACEMENTS: (Tipped Uterus)

1. Are very common and rarely cause any serious problems. Treatment is usually insertion of a pessary to support the uterus.

CANCER:

1. Cervix (neck of uterus)
2. Endometrium (lining of uterus)
3. Ovary
4. Vulva
5. Vagina
6. Oviduct (Fallopian tubes)

Cancer may affect any area of the female organs; if cancer is diagnosis it is usually followed by surgery.

POSTMENOPAUSAL COMPLAINTS:

1. At this time of life, some women develop symptoms due to prolapse of vaginal walls and bladder with frequency of urination. They may also develop menstrual irregularities and unusual periods, sometimes excessive bleeding, and sometimes spotting. The vagina becomes less elastic, more easily irritated, (with) tenderness, burning, and itching. Usually these symptoms are caused by lack of estrogen.

FEMALE OPERATIONS:

1. D. & C. —which means dilating the cervix and curetting or scraping the lining of the uterus.
2. HYSTERECTOMY — refers to removal of uterus only.
3. TOTAL HYSTERECTOMY — refers to removal of uterus and cervix, tubes and ovaries.
4. STERILIZATIONS — are normally performed only when a medical condition makes future pregnancy dangerous.